



Project Re-Appraisal Report

National Broadband Plan

STRICTLY CONFIDENTIAL

KPMG

9 May 2019

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Report Status

This report was originally prepared and issued in draft in May 2018. This version has been updated for consistency of language with other documents however the conclusions and analysis have not changed

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Glossary of Terms

Term	Definition
ARPU	Average Revenue Per User
BU-LRAIC plus	Bottom Up Long Run Average Incremental Cost plus
CMP	Connection Milestone Payments
CMP	Connection Milestone Payments
CommReg	Communications Regulator
CPO	Compulsory Purchase Order
DAE	Digital Agenda for Europe
DCCAE	Department of Communications, Climate Action and Environment
DEPR	Department of Public Expenditure and Reform
DMP	Deployment Milestone Payments
DMPs	Deployment Milestone Payments
DOF	Department of Finance
DSM	Digital Single Market
EOI	Equivalence of inputs
EPEC	European PPP Expertise Centre
ERDF	European Regional Development Fund
FTTH	Fibre to the Home
FTTP	Fibre to the Premises
FWA	Fixed Wireless Access
GDP	Gross Domestic Product
GDPR	General data Protection Regulation
GGs	General Government Sector
GOCO	Government owned Contractor operated
HICP	Harmonised Index of Consumer Prices
IA	Intervention Area
IAA	Infrastructure Access Agreement
ICT	Information Communications Technology
IRR	Internal Rate of Return
ISDS	Invitation to Submit Detailed Solutions
JV	Joint Venture
KPI	Key Performance Indicators
NBP	National Broadband Plan
NGA	Next generation access
NPV	Net Present Value

Term	Definition
OCP	Ongoing Capital Payments
OCPs	Ongoing Capital Payments
OJEU	Official Journal of the European Union
PFMT	Project Financial Model Template
PID	Programme Initiation Document
RSP	Retail Service Provider
SIRO	ESB / Vodafone joint venture
SLAs	Service Level Agreements
SME	Small Enterprise
SMP	Significant Market Power
SPV	Special Purpose Vehicle
USD	Universal Service Designation
USO	Universal Service Obligation
VFM	Value for Money
VUA	Virtual Unbundled Access
WISPs	Wireless Internet Service Provider's

1 Executive Summary

1.1 Background and Purpose

The National Broadband Plan Project ("Project") is a Government led initiative with the aim of stimulating investment in the development and operation of a wholesale broadband network, providing next generation broadband connectivity for circa 545,000 delivery points in rural Ireland located in areas where commercial operators currently have no firm plans for the delivery of such services.

The Government's objectives for the intervention are to deliver a high quality and reliable, open access wholesale broadband network, offering customers a choice of services and service providers, future proofed to bridge the digital divide in the long term. The Government aims to secure value for money by leveraging additional private sector investment and reusing existing infrastructure wherever possible.

The Project was originally appraised and subsequently approved by Department of Communications, Environment and Climate Action ("DCCAE") in June 2015, where a gap funded model was chosen as the preferred ownership option. The Project is currently in the dialogue phase of the procurement process. This stage has a number of clearly defined technical, commercial and contractual areas required to be addressed before advancing to the final procurement stage - Final Tender submission.

DCCAE, following consultation with the Department of Finance, Department of the Taoiseach and the Department of Public Expenditure and Reform, has requested a reappraisal of the National Broadband Plan Project in line with the Public Spending Code as is required for a project of this nature. This was undertaken due to the fact that subsidy levels submitted by the two Bidders in the process at ISDS, eir and GENC, were significantly higher than the subsidy forecast in the budget model prepared by DCCAE in September 2017.

In line with Section B.02 'The Planning Stage' of the Public Spending Code, when a tender price and other relevant information become available, the case for proceeding with the proposal is to be reviewed.

- If tenders are over the approved limit re-appraisal may be required to determine whether the project should be abandoned or proceeded with.
- If this re-appraisal suggests proceeding at higher cost the approval of the Sanctioning Authority to a raised financial limit must be sought before contracts are placed.

The purpose of this report is to provide a re-appraisal of National Broadband Plan ("NBP") in line with the Public Spending Code. According to the DCCAE, the underlying strategy for the NBP remains unchanged and as such this reappraisal focuses on alternative means to deliver that strategy. Please refer to Appendix D of this report which sets out the DCCAE assessment of the underlying NBP strategy indicating whether there has been a change as a result of the project reappraisal.

1.2 Approach and Methodology

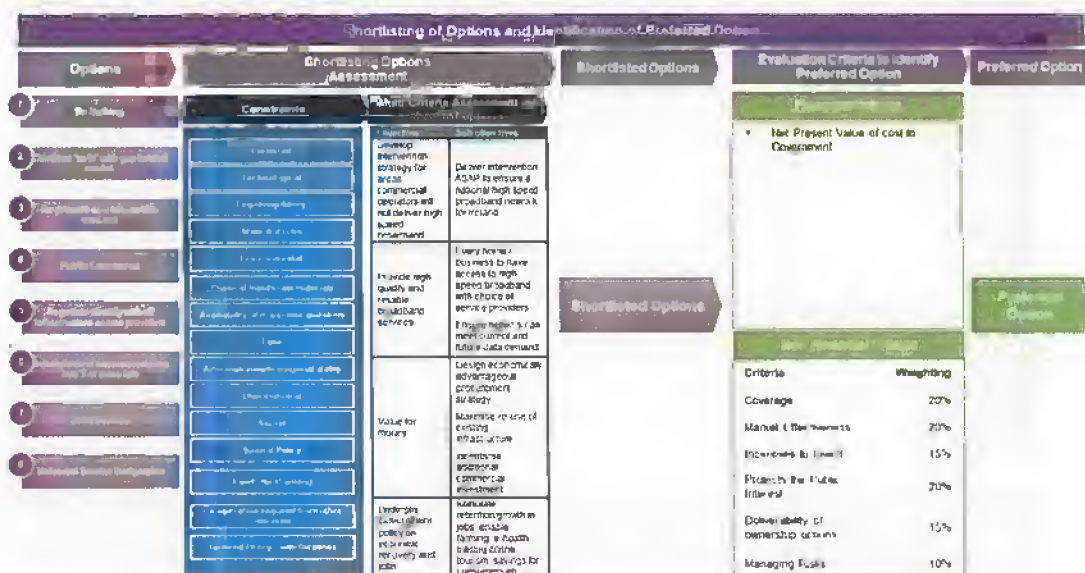
The approach and methodology employed in the project re-appraisal is illustrated in Figure 1 below and is in line with Section B.01 'Standard Appraisal Process' and Section B.03 'Approvals Required and Scale of Approval' of the Public Spending Code.

1.2.1 Approach

Our approach comprises of four key steps:

- **Step 1: Identification of options:** data gathering, data analysing and brainstorming to identify a range of delivery options for the project.
- **Step 2: Shortlisting of strategic options:** establish a shortlisted set of options based on constraint analysis in line with Public Spending Code and Multi-Criteria Assessment informed by the objectives and sub-objectives of the National Broadband Plan Project.
- **Step 3: Shortlisted strategic option review** determine the preferred shortlisted option using both financial and non-financial criteria
- **Step 4: Preferred Option:** finalisation of conclusion and strategy for implementation of proposed option.

Figure 1: Project Re-appraisal Approach and Methodology



1.2.2 Methodology

In arriving at the short-listed options, we have applied a number of initial assessment methodologies including:

Constraints Analysis: identified options are assessed against the constraints which are set out in the Public Spending Code and consultation with the Department and its various advisors including technical, legal and commercial. The results of which are displayed in the below diagram and outlined in more detail in Section 5.3.

Figure 2: Constraint Analysis Results

	Option 1 National Network	Option 2 Local Network	Option 3 Local Network	Option 4 Local Network	Option 5 Local Network	Option 6 Local Network	Option 7 Local Network	Option 8 Local Network	Option 9 Local Network	Option 10 Local Network	Option 11 Local Network	Option 12 Local Network	Option 13 Local Network	Option 14 Local Network	Option 15 Local Network
Financial															
Legal/regulatory															
State aid rules															
Environmental															
Physical Infrastructure constraints															
Availability of disposal and sites															
Time															
Administrative managerial ability															
Operational															
Health															
Spacial Policy															
Land use planning															
Conservation required from other interests															
General Policy considerations															

Multi-Criteria Assessment: a multi criteria analysis was performed based on a set of criteria derived from the objectives of the National Broadband Intervention Strategy developed by PWC. Each option was scored against these criteria. This allowed an assessment of the extent to which each option contributes to achievement of the objectives and sub-objectives for National Broadband intervention strategy. This is set out in more detail in Section 5.4.

Figure 3: Multi-Criteria Assessment Results

	Dis- funding	Continue the process as is	Do not fund with reduced scale	Do not fund with reduced scale to 50%	Do not fund with reduced scale to 25%	Continue process as is	Continue process with reduced scale to 50%	Continue process with reduced scale to 25%	Continue process with reduced scale to 10%	Private Ownership	Regulatory Directly	Regulatory Indirectly	Private Ownership	Private Ownership
Develop appropriate strategy for cross commercial operators and not deliver NBS	0	5	3	4	3	3	3	3	3	1	2	3	1	0
Provide high quality and reliable broadband services	0	5	5	5	5	5	5	5	5	5	5	3	5	5
Value for money	0	4	4	3	2	3	3	3	2	1	3	2	2	4
Underpin Government policy on economic resilience and jobs	0	5	5	5	5	5	5	5	5	5	4	3	5	5
Overall Relative Ranking														

Based on the results of the previous assessment, a number of options were shortlisted for detailed assessment against both the financial and non-financial criteria set out in the below diagram.

Figure 4: Detailed Evaluation Assessment Criteria



1.3 Overview of Options

An overview of the initial options which were considered by DCCAE in the project re-appraisal are set out in the table below including a brief summary of each option.

Options	Sub-option	Description of Assumed Structure
1 Do Nothing	N/A	<ul style="list-style-type: none"> Under this option, the current National Broadband Plan procurement process and project is cancelled. The State does not intervene in the market and the commercial operators may roll out to the Intervention Area as they see appropriate within their own timeline.
2 Continue 'as is'	<ul style="list-style-type: none"> Option 2(a) – shared revenue risk. Option 2 (b) – reduced scope (95%) with remaining area being funded separately, for example being serviced by Universal Service Designation ('USD') obligation. Option 2(c) – reduced scope (80%) with remaining area being funded separately, for example being serviced by USD obligation. 	<ul style="list-style-type: none"> Under this option, the current National Broadband Plan procurement process and project will continue 'as is', i.e. with one bidder. Private sector build, finance, own and operate the broadband infrastructure for circa. 545,000 delivery points in rural Ireland. A pre-determined level of capital subsidy will be paid to the private sector operator through grants, which are paid during deployment and through the operational life of the contract. Intervention is structured so that the subsidy provided is the minimum amount necessary to allow for infrastructure development by the private sector whilst ensuring the returns earned by the private sector are reasonable. Subsidy payments are dependent on satisfactory performance. Private sector retains ownership of the network at the end of the 25 year contract.
3 Re-procure as a concession contract	<ul style="list-style-type: none"> Option 3(a) – shared revenue risk. Option 3(b) – reduced scope (95%) with remaining area being funded separately, for example being serviced by Universal Service Designation ('USD') obligation. 	<ul style="list-style-type: none"> Under this option, the current National Broadband Plan procurement process would be cancelled and the project would be re-procured as a concession contract. As with Option 2, private sector build, finance, own and operate the broadband infrastructure for circa. 545,000 delivery points in rural Ireland. Intervention is structured so that the subsidy provided is the minimum amount necessary to allow for infrastructure development by the private sector whilst ensuring

Options		Sub-options	Description of Assumed Structure
		<ul style="list-style-type: none"> ➤ Option 3(c) – reduced scope (80%) with remaining area being funded separately, for example being serviced by USD obligation. 	<ul style="list-style-type: none"> the returns earned by the private sector are reasonable. Subsidy payments are dependent on satisfactory performance. Private sector retain the risk associated with take-up assumptions and revenue. In distinction to Option 2, the Asset reverts to the public at the end of the 25 year contract.
4	Public Concession	➤ N/A	<ul style="list-style-type: none"> Under this option, the current National Broadband Plan procurement process would be cancelled and the project would be re-procured as a public concession. Public sector design, build, operate and own the broadband infrastructure. Public sector will derive all benefits associated with the infrastructure and assume the majority of the risk. Private sector involvement will be limited to the contracting of network design and build and for other capabilities such as specialist advice.
5	Negotiate directly with all Infrastructure access providers	➤ N/A	<ul style="list-style-type: none"> Under this option, the current National Broadband Plan procurement process would be cancelled or have run its course unsuccessfully. Public sector negotiate directly with all infrastructure access providers, i.e. eir or ESB in order for them to finance, design, build and operate the broadband infrastructure. The quantum of subsidy required, if any, will be dependent on the outcome of the negotiations and underlying commercials.
6	Subdivision of Intervention Area into 5 or more lots	➤ N/A	<ul style="list-style-type: none"> Under this option, the current National Broadband Plan procurement process would be cancelled. The Intervention Area is divided into 5 or more lots and procured under the gap funding model similar to Option 2 or a concession similar to Option 3.
7	Joint Venture	➤ N/A	<ul style="list-style-type: none"> Under this option, the current National Broadband Plan procurement process would be cancelled.

Options	Sub-options	Description of Assumed Structure
<p>8 Universal Service Designation</p>	<p>> N/A</p>	<ul style="list-style-type: none"> The public sector and private sector partner form a joint venture ('JV'), most likely a Special Purpose Vehicle ('SPV') to design, build and operate the broadband infrastructure. Both parties will own equity in the entity and will split the risks and rewards of ownership. Equity will be invested by both parties on a 50:50 basis over the deployment period. The State will pay a social policy objective grant to the JV during operations. This grant will be structured to address the financial viability gap associated with the wholesale investment. Grant payments are subject to the JV meeting specified performance levels and contractual obligations. Under this option, the current National Broadband Plan procurement process would be cancelled and a USD process would have to be set up through legislation and a new procurement of a USD operator. It should be noted that implementation of this option would require an EU Directive on USD. Whilst discussions are underway in relation to same, it is only at consultation stage. Delivery of this option would therefore be some time in the future at this point. Private sector operator will design, build, finance and operate the broadband infrastructure. Capital subsidy will be paid to the private sector operator through grants on a five yearly look-back basis. Intervention is structured so that the subsidy provided is the minimum amount necessary to allow for infrastructure development by the private sector whilst ensuring the returns earned by the private sector are reasonable. Private sector partner bears the risk associated with wholesale network deployment, operation and exploitation.

1.4 Overview of Shortlisted Options

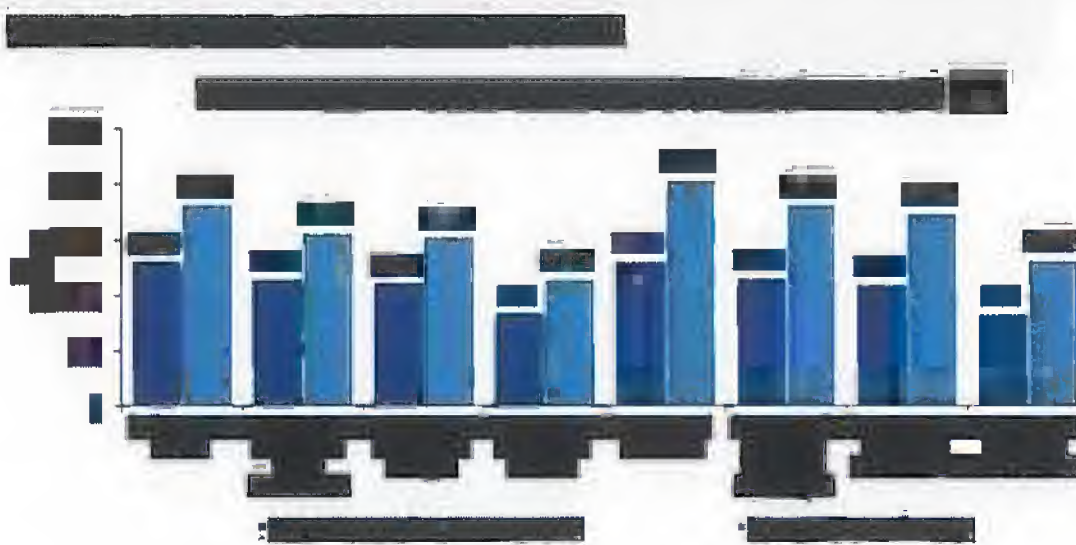
1.4.1 Shortlisted Options

Based on the methodology set out for shortlisting options in 1.2.2 above and detailed further in Section 5.3 and 5.4, the following options were shortlisted for detailed assessment:

- **Option 2: Continue 'as is' (Private sector build, finance, own and operate with obligations (gap funded))**
 - Option 2(a) – Shared revenue risk.
 - Option 2 (b) – Reduced scope (95%) with remaining area being funded separately, for example being serviced by Universal Service Designation ('USD') obligation.
 - Option 2(c) – Reduced scope (80%) with remaining area being funded separately, for example being serviced by USD obligation.
- **Option 3: Re-procure as a Concession Contract**
 - Option 3(a) – Shared revenue risk.
 - Option 3(b) – Reduced scope (95%) with remaining area being funded separately, for example being serviced by Universal Service Designation ('USD') obligation.
 - Option 3(c) – Reduced scope (80%) with remaining area being funded separately, for example being serviced by USD obligation.

1.5 Evaluation Assessment Results

The shortlisted options were subject to the financial and non-financial appraisal set out in Sections 6 and Section 7 respectively. The financial appraisal was based on costs as per the Budget Model as at March 2018 for Option 2 which is the current structure. These costs were then extrapolated as a proxy for the costs of the other options. The results of the financial appraisal are summarised in Figure 5: Financial appraisal results of the shortlisted options and the results of the non-financial appraisal are summarised in Figure 6: Non-Financial appraisal results of the shortlisted options.



[REDACTED]

[REDACTED]

[REDACTED]

Figure 6 Non - Financial appraisal results of the shortlisted options

Criteria	Raw Scores							
	Option 2	Option 2(a)	Option 2(a) (95%)	Option 2(b) (80%)	Option 3	Option 3 (a)	Option 3 (a) (95%)	Option 3 (c) (80%)
Coverage	5	3	4	3	3	3	3	3
Market Effectiveness	4	4	4	4	5	5	5	5
Incentives to invest	5	4	5	5	3	2	3	3
Protects the public interest	4	4	4	4	5	5	5	5
Deliverability of ownership options	5	3	3	4	2	3	1	1
Managing Risks	5	4	5	5	4	3	4	4
Weighted Total Score	460	365	410	405	375	365	360	360

The results of the non-financial assessment suggest that Gap Funded model is likely to make the greatest contribution to the achievement of the strategic objectives and principles of the project, with a weighted score of 460 with option 2(b) providing the next most viable option, whereby the scope is reduced to 95% of the Intervention Area with remaining area being funded separately, for example being serviced by Universal Service Designation ('USD') obligation.

1.6 Key Differences between Gap Funded and Concession Models

Based on our experience, our assessment of the key differences between the two shortlisted options are detailed below. Noting that the Gap Funded Model is based on current contract provisions whereas the Concession Model is based on an assumption of what that contract might be

Figure 7: Key Differences between Gap Funded and Concession Models

	Gap Funded Model	Concession Model
Timeline	<p>✓ No change to target timeline</p>	<p>✗ Target timeline need to be extended</p> <ul style="list-style-type: none"> - Revised Government decision needed - Market consultation on revised approach needed - Potentially full reprocurement required
Ownership and Asset Reversion	<p>State will <u>not</u> own the NBP fibre</p> <p>According to the proposed contract terms:</p> <p>Advantages:</p> <ul style="list-style-type: none"> ✓ Future capital requirements are borne by the Private Sector post contract ✓ Ensures future proofing of the network as Private Sector incentivised to invest to equalise post contract value ✓ Risks associated with ownership are borne by Private Sector <p>Disadvantages:</p> <ul style="list-style-type: none"> ✗ Provision of a material amount of state funding with no ownership to return ✗ Private Sector has sole rights to commercial exploitation of the asset post contract 	<p>State will own the NBP fibre</p> <p>Advantages:</p> <ul style="list-style-type: none"> ✓ State captures future benefits associated with the network post contract <p>Disadvantages:</p> <ul style="list-style-type: none"> ✗ Difficult to realign NBP fibre asset to enable <u>asset integration</u> due to integration with existing infrastructure ✗ Risks associated with ownership are borne by State post contract ✗ Limited commercial incentive for Private Sector to build the business, innovate and diversify towards the end of the contract (mitigated somewhat by required Handback criteria) ✗ State assumes the long term risk of ensuring the network can continue to rely on third party infrastructure. i.e. securing a revised Infrastructure Access Agreement ✗ State will bear long term technology and network obsolescence risk

1.6.1 Reduction in scope analysis – 95% and 80% options

Under this approach, the Government can either decide to:

- Only deliver high speed broadband to 80% or 95% of the NBP intervention area; or
- Deliver the reduced scope under the current procurement and explore alternatives for the remaining premises.

Some of the key issues associated with these approaches is presented in the table below.

Reduce scope to 80% and 95%	Reduce scope to 80% and 95% and consider alternatives for the remaining premises
Failure to achieve Government Policy and Objectives which identifies 100% coverage as the target for the delivery of High Speed Broadband	Delayed delivery of policy objective and economic benefits
Failure to achieve the Digital Single Market Objective of every European having access to 30 Mbps connectivity by 2020	A technical solution which is cheaper than addressing the premises through the gap funded approach has not yet been identified
Creates significant challenge to the rollout of the State's digital agenda including eGovernment, eHealth, technology in education etc.	Assessment of premises to be removed from the Intervention Area would need to be undertaken to ensure premises could be serviced through alternative means
Reduces economic benefits to the State from ability to promote remote working, dispersed economic development etc.	Significant work would be required in assessing alternative options and planning and running a separate process

A high level analysis performed by Analysys Mason of the potential premises which would not be covered are as follows.

95% Coverage Analysis				80% Coverage Analysis			
	total premises	not covered premises	% of not covered premises		total premises	not covered premises	% of not covered premises
CARLOW	8,291	618	7.40%	CARLOW	8,291	1,598	19.26%
CAVAN	18,120	718	4.00%	CAVAN	18,120	4,309	23.78%
CLARE	21,728	870	4.00%	CLARE	21,728	4,453	20.50%
CORK	63,161	3,346	5.30%	CORK	63,161	13,143	20.81%
DONEGAL	35,390	1,994	5.60%	DONEGAL	35,390	7,575	21.40%
DUBLIN	8,839	902	10.20%	DUBLIN	8,839	3,908	44.19%
GALWAY	48,044	1,577	3.40%	GALWAY	48,044	5,833	12.87%
KERRY	30,368	2,181	7.20%	KERRY	30,368	7,481	24.68%
KILDARE	18,943	951	5.00%	KILDARE	18,943	5,120	30.22%
KILKENNY	18,227	437	2.70%	KILKENNY	18,227	2,647	15.70%
LAOIS	12,303	404	3.30%	LAOIS	12,303	2,077	16.88%
LEITRIM	11,139	480	4.30%	LEITRIM	11,139	1,238	11.11%
LIMERICK	27,014	877	3.20%	LIMERICK	27,014	3,533	13.08%
LONGFORD	8,885	188	2.10%	LONGFORD	8,885	915	10.54%
LOUTH	8,883	507	5.70%	LOUTH	8,883	2,407	27.10%
MAYO	35,680	1,283	3.60%	MAYO	35,680	5,301	14.87%
MEATH	22,038	1,701	7.70%	MEATH	22,038	5,078	23.04%
MONAGHAN	14,330	531	3.70%	MONAGHAN	14,330	1,496	10.44%
OFFALY	11,929	298	2.50%	OFFALY	11,929	861	7.22%
ROSCOMMON	19,057	1,123	5.90%	ROSCOMMON	19,057	3,288	17.25%
SLIGO	13,094	580	4.40%	SLIGO	13,094	3,865	29.52%
TIPPERARY	30,115	1,110	3.70%	TIPPERARY	30,115	8,728	28.98%
WATERFORD	12,587	508	4.00%	WATERFORD	12,587	2,907	23.13%
WESTMEATH	13,931	886	6.40%	WESTMEATH	13,931	3,314	23.79%
WEXFORD	25,102	2,381	9.50%	WEXFORD	25,102	6,834	27.23%
WICKLOW	10,443	653	6.30%	WICKLOW	10,443	2,770	26.52%
TOTAL	444,397	27,344	6.16%	TOTAL	541,387	108,961	20.02%

Note 1: The above premises were derived by ranking aggregation points in terms of cost per premises from the highest to the lowest nationwide and removing the top 5% and the top 20% respectively. The actual premises themselves have not actually been identified and costed as yet

Note 2: Costs are based on 100% FTTH

1.7 Conclusion

On the basis of the financial and qualitative appraisal of shortlisted options presented above, we conclude that the preferred option is Option 2 'Continue with the current procurement process of a gap funded model followed by Option 2(b).

This option was selected by DCCAE on the basis that it:

- Offers an opportunity to achieve a mutually acceptable agreement with the remaining Bidder;
- Minimises procurement risk and the consequential State Aid and ERDF risks; and
- Is structured to provide early check-points on the potential to achieve a mutually acceptable agreement.

A clear strategy for implementing this option is described in Section 9.3 of this report. The delivery of this option is dependent on the following:

- Reaching an acceptable position on the overall cost of the project;
- Reaching an acceptable position on the contractual terms; and
- Bidder proposing a final technical solution that is acceptable.

1.8 Taking the Project Forward

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

1.8.2 High Speed Broadband Determination

The technical advisors undertook an analysis of the High Speed Broadband Determination and noted that while the Intervention Strategy does not specify the type of technology that should be used for the National Broadband Plan, it has been accepted, following detailed analysis by DCCAE that Fibre to the Premises is the likely solution for the majority of premises in the Intervention Area. The remaining Bidders in the competition put forward a similar view during dialogue. Whilst the aspiration of the Intervention Strategy is ubiquitous availability of the same Minimum Standard NGA Service to all premises in the Intervention Area, the Strategy recognises that the economics of achieving this aspiration may result in an unacceptably high, unaffordable subsidy requirement. Therefore in order to address this affordability risk, the option of providing Alternative Bitstream Wholesale Products was explored with Bidders by the technical advisors and DCCAE. This allows bidders to propose alternative solutions that doesn't achieve all the specification requirements under Minimum Bitstream Wholesale Products, e.g. alternative technology fixed wireless access solution and a satellite solution. These options are currently being dialogued with the Bidder bt the

technical advisors and DCCAE and will be pursued if they meet the objectives of the project and offer value for money for Government.

Following an analysis on High Speed Broadband Determination by the technical advisors, it was concluded that at present the Bidder will continue to be required to provide a High Speed Broadband product to 100% of premises in the Intervention Area. There has been no obvious Alternative Bitstream solution identified to date, however the Contract will allow flexibility for alternatives to facilitate new solutions and technologies over the contract duration, as well as allowing for Alternative Bitstream Wholesale Product for difficult to reach premises that materialise during deployment. This optional access solution will meet minimum specification set for the Minimum Bitstream Wholesale Product, however it may have a different specification to the product that NBPco is using in the majority of the Intervention Area. The specification shall be future proofed and proportionally track the roadmaps for the main Minimum Bitstream Wholesale Product. The use of the Alternative Bitstream Wholesale Product is currently proposed to be capped at 2% of existing Premises and 2% of new Premises.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

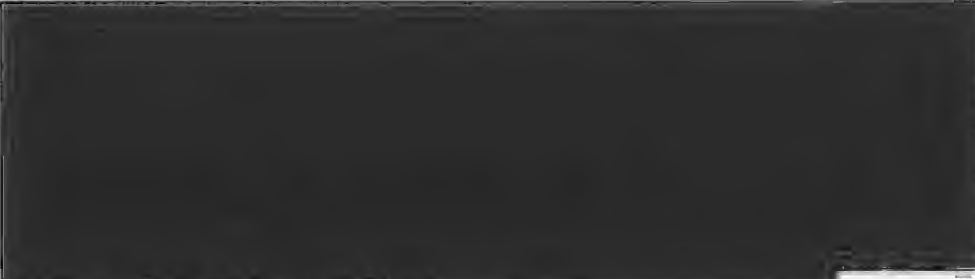
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2 Introduction

The purpose of this report is to provide a re-appraisal of National Broadband Plan ("NBP") in line with the Public Spending Code. The original appraisal of this project was undertaken in June 2015 where a gap funded model was recommended as the preferred ownership option.

It is the responsibility of DCCAE, as Sponsoring Agency, to procure and implement a robust ownership model for the cost effective and efficient delivery of the project in order to ensure any public money used is efficiently and effectively utilised towards achieving the NBP objectives, the required outputs, outcomes and benefits. Following recent developments in the procurement and recent discussions with Government, DCCAE has initiated a re-appraisal of the project.

The decision to re-appraise the project was taken by DCCAE, following consultation with the Department of Finance, Department of the Taoiseach and the Department of Public Expenditure and Reform, due to the fact that subsidy levels submitted by the two Bidders in the process at Invitation to Submit Detailed Solutions ("ISDS"), eir and GENC, were significantly higher than the subsidy forecast in the budget model prepared by DCCAE in September 2017.

This report identifies and re-appraises, through financial and non-financial analysis, a number of project options and identifies a preferred option for delivering the State's intervention. This report is informed by the Broadband Strategy for Ireland report prepared by PwC, Strategy Advisor and the Cost Modelling prepared by Analysys Mason, Technical Advisor and previous reports prepared by KPMG, Financial Advisor on ownership, funding, governance and the financial appraisal. The project appraisal must ensure consistency with previously determined programme/policy objectives.

2.1 Overview of current Procurement Process

2.1.1 Progress of the procurement to date

On 22 December 2015, DCCAE published a contract notice in the Official Journal of the European Union (the "OJEU") regarding a proposed contract to appoint an operator or operators for the financing, development, construction, operation, maintenance and exploitation of NBP (including the provision of next generation access ("NGA") wholesale services for premises that are unlikely to be able to access such services through commercial investment alone) ("the Project") using a competitive dialogue procurement process.

The project was designated as a "service concession" as defined in the Public Procurement Directive 2004/18/EC and the European Communities (Award of Public Authorities' Contracts) Regulations 2006.

The competitive dialogue procedure process and steps which have been completed to date include:

- **Stage 1 - pre-qualification:** This stage was governed by the Pre-Qualification Documents and involved the Department evaluating the PQQ Responses submitted by Bidders to determine the eligibility, economic and financial standing and technical and professional capability of each Bidder. The pre-qualification stage concluded in June 2016 with a short list of 3 Bidders (GENC, Siro and Eir), which were notified by the Department in writing of their inclusion in the dialogue process (Stage 2).
- **Stage 2 – dialogue:** This stage was governed by the ISDS which was issued to the pre-qualified Bidders following the pre-qualification stage. This ISDS described the Department's requirements for the Project and the submission of Detailed Solutions during the dialogue stage. The Department received the ISDS submissions from two Bidders (GENC and Eir) in September 2017. These submissions were evaluated and

feedback was provided to Bidders in respect of the evaluation criteria set out in ISDS Volume 2. Financial solutions (including cost model, financial model and subsidy requirement) have also been reviewed in detail against DCCAE's budget model. The dialogue process is currently ongoing however it is well progressed with only a number of clearly defined and understood "red flag issues" remaining and DCCAE having a clearly defined list of technical, commercial and contractual areas to be addressed in advance of Final Tender submission.



2.2 Project Re-appraisal

The proposed government intervention in the NGA broadband market will involve a public sector subvention. In order to ensure that the government has sufficient information to determine its options for subvention and whether or not to allocate a level of funding to the project, it is necessary to develop a project appraisal of the project. The original appraisal of this project was undertaken in June 2015 with an updated report following public consultation in February 2016. In advance of ISDS submissions in September 2017, DCCAE set out a budget model for the NBP. This budget model set out the projected subsidy level for the project. However, both bidder submissions at the ISDS stage projected significantly higher levels of subsidy. Following a detailed costs review and evaluation of the cost and financial models, DCCAE formed the view that the subsidy levels at ISFT are unlikely to be lower than the September 2017 budget model. As such, and following consultation with the Department of Finance, Department of the Taoiseach and the Department of Public Expenditure and Reform, DCCAE made the decision to reappraise the project options. DCCAE has updated its budget model to provide an updated estimate of what it now believes the project is likely to cost. Analysis on the differences between the September 2017 budget model and the updated budget model is set out in Appendix 2 to this report.

In undertaking this re-appraisal, a number of additional considerations have been taken into account including: progress and information obtained from the process to date, the single bidder situation, likely impact of cancelling the current procurement and market appetite for any re-procurement of the project.

Based on delivering the original programme/policy objectives underpinning the NBP, this re-appraisal assesses the universe of options now available for the proposed state-led intervention and shortlists these taking into account the constraints and objectives of the Project. A preferred option is selected through the assessment of the likely financial and non-financial impacts of the shortlisted options over the term of the project. While the financial appraisal and supporting financial model is developed based on best estimates and assumptions developed with DCCAE and its advisers and information received from Bidders at ISDS, there will still be a number of risks

and uncertainties associated with this analysis. As such, a sensitivity analysis of the key assumptions is also included in this report

This appraisal includes financial appraisal techniques, such as the net present value ("NPV") and the internal rate of return ("IRR"), so that options can be appraised and recommendations made. The appraisal of options are carried out in line with the Public Spending Code, including consideration of discount factors set out in the Public Spending Code. The financial appraisal model includes financial statements including cash flow statements, income statements and balance sheet statements over the proposed contract period of the state-led intervention.

2.3 Structure

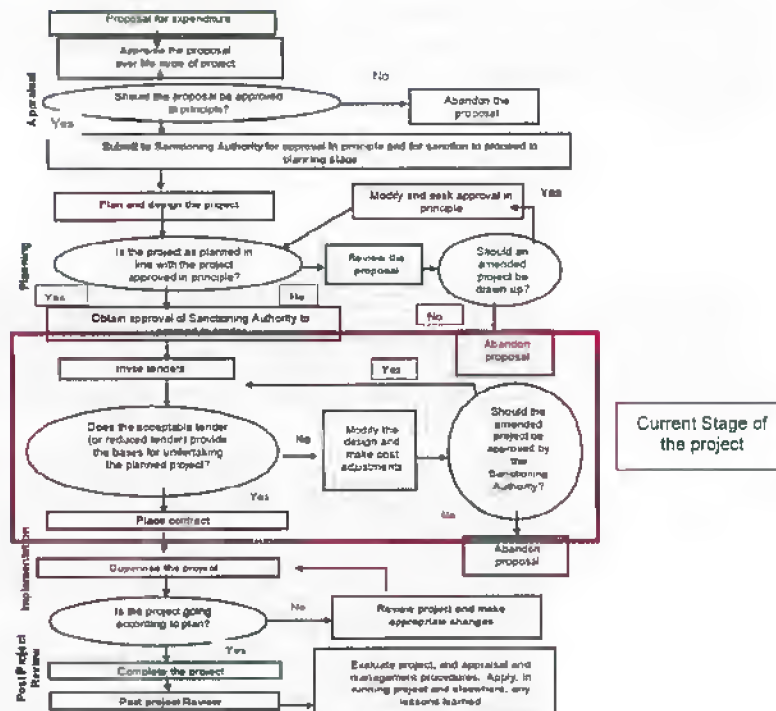
The report sets out the following:

- overview of the market and the NBP;
- objectives of the Project;
- universe of project options, their advantages and disadvantages and their potential constraints;
- preferred options considered;
- financial and non-financial appraisal undertaken;
- risks associated with the preferred options;
- sensitivity analysis;
- recommendations; and
- key assumptions and inputs used.

2.4 Methodology

Figure 8 below sets out the project appraisal approach as set out in the 2012 Department of Finance ("DoF") Guidelines for the Appraisal and Management of Capital Expenditure Proposals in the Public Sector

Figure 8. Overview of the project appraisal and management process



In line with Section B.02 'The Planning Stage' of the Public Spending Code, when a tender price and other relevant information become available, the case for proceeding with the proposal is to be reviewed. If tenders are over the approved limit re-appraisal may be required to determine whether the project should be abandoned or proceeded with. If this re-appraisal suggests proceeding at higher cost the approval of the Sanctioning Authority to a raised financial limit must be sought before contracts are placed.

Following from the above, a re-appraisal of the project has been undertaken in line with Section B.01 'Standard Appraisal Process' and Section B 03 'Approvals Required and Scale of Approval' of the Public Spending Code.

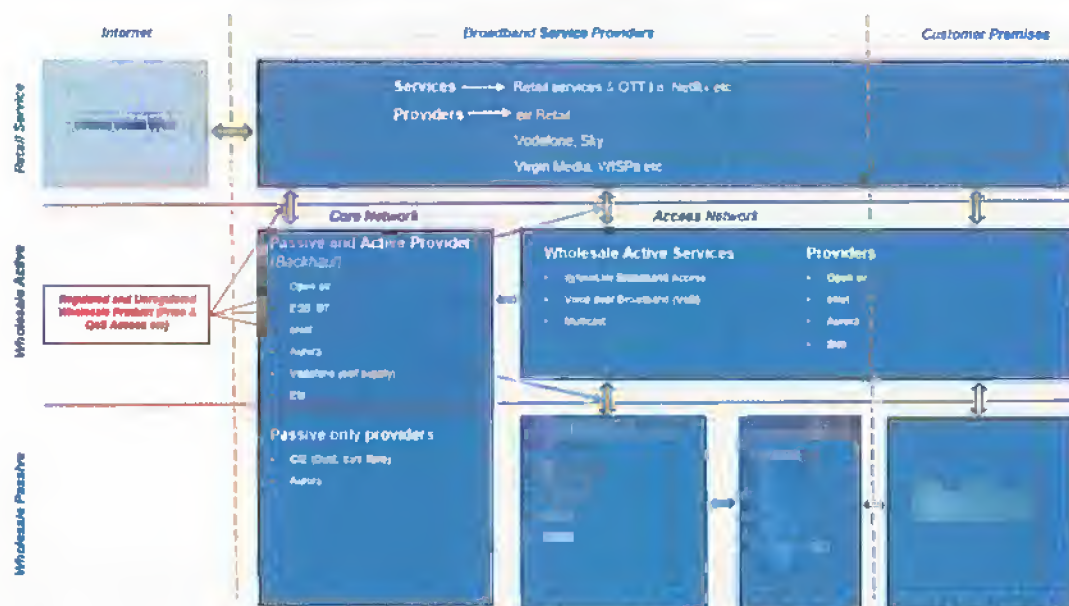
3 The National Broadband Plan

3.1 Overview of the market

3.1.1 Current market structure¹

The Irish broadband market is broadly structured as shown in the diagram below, with a variety of companies operating at different layers across the network. In addition to these operators ComReg, the National Regulatory Authority for the electronic communications sector in Ireland, plays a role in regulating the market and in particular those companies viewed as having significant market power.

Figure 9: Current fixed broadband market by operator and layer (Indicative)



Source: OCCAE

The fixed broadband market is split between three layers that connect end users with the internet. These are as follows:

Retail Service Providers

These are the retail companies that consumers will contract with to obtain their broadband service. There are a variety of operators at this layer each offering differing levels of service quality (speed, download/upload usage) and price to consumers. The Retail Service Provider ("RSP") delivers the broadband service for the customer (utilising the network infrastructure described below), manages the connection that the consumer has with the internet and provides the connection between the network infrastructure and the internet.

Wholesale Active Layer

¹ Department of Communications, Climate Action and Environment ("DCCAE") and Technical Advisors

The wholesale active layer is broadly divided into two different services, these are:

- **Access Network** – This represents “active” parts of the “last mile” to the customer premises, namely infrastructure such as switches, antenna, transceivers and microwave equipment that allows the transmission of data through the physical infrastructure. Similar operators are present at this level as at the passive layer level (see below). Key regulated products include Virtual Unbundled Access, Broadband Access and Multicast.
- **Core Network** – Often known as backhaul, this layer represents the core network elements such as switching centres, GPRS service nodes and transmission equipment. It effectively represents the backbone of the broadband network. This core / backhaul network will connect the “last mile” to the interconnection point with the RSPs, who in turn provide IP connectivity to the wider internet. A wider variety of operators are active at this layer. Key regulated products include Broadband Usage, Ethernet related backhauling and operator-to-operator interconnection products.

Wholesale Passive Layer

This covers the physical infrastructure from the customer premises, via the “last mile” to the exchanges containing the active equipment. The passive layer also includes the passive infrastructure of the core network. The physical infrastructure of this layer includes poles, masts, ducts, cabinets, exchange buildings, as well as the equivalent passive elements of the core network. eir is the largest operator at this layer. An ESB / Vodafone joint venture (“SIRO”) was, from the beginning of 2015 onwards, making significant investment into expanding its presence in this layer and the active layer in particular, using existing electricity infrastructure to run fibre optic cable to 500,000 homes and premises. There are also a number of other operators in this layer, for example enet.

Within this layer eir provides access network regulated products such as Local Loop Unbundling, exchange space rental and duct and poles access. There is also a limited number of core network passive only providers, for example CIE and Aurora, who supply physical infrastructure only (e.g. duct and dark fibre). Purchasers of these services must supply their own active components to make use of the physical infrastructure.

eir has a commitment agreement with the Minister to rollout high speed broadband to 300,000 premises in rural Ireland by the end of 2018 – c 500 premises per day. This is a wholesale network only. eir sells access to the network to retail service providers on an open access basis who in turn resell to the general public. We understand that eir progress to date is in line with the Commitment Agreement. In the period from 1 July to end of December 2017, 120,567 premises have been passed and over 20,000 of those premises have been connected to high speed broadband services.

The diagram also indicates the points in the broadband network where ComReg is most active in regulating the market. Following market review, ComReg has designated eir as having significant market power in the provision of broadband services. Therefore, ComReg has imposed controls, regulatory obligations and remedies on eir. These controls cut across all layers of the broadband infrastructure requiring regulation of access, price and quality of service at the physical, active and core layers.

5G

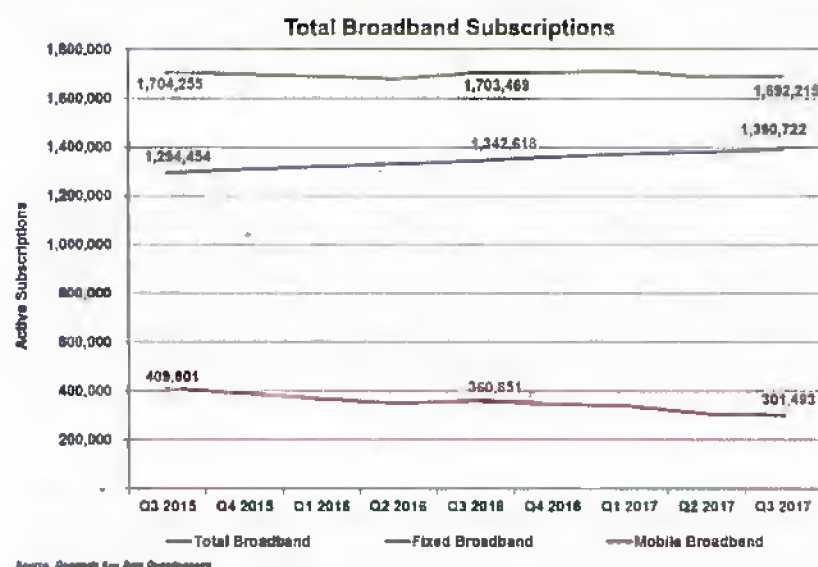
The technical advisors undertook a review of 5G. Their high level analysis is set out here [REDACTED]. 5G refers to the fifth generation of mobile technology and is the next generation of mobile and wireless broadband technology, capable of delivering

ultra-fast speeds, along with better scalability, lower latency and higher reliability. 5G is currently under development and is expected to be launched from 2020, with some early international adopters launching networks in 2018. The future will see 5G services being used in the provision of mobile and fixed services.

3.1.2 Market segments and participants

The figures that follow outline the Irish broadband market, providing a split in the broadband market between fixed and mobile platforms and the RSPs providing services using these platforms. These were taken from the Irish Communications Report prepared by ComReg.

Figure 10: Split of broadband market between fixed and mobile platforms

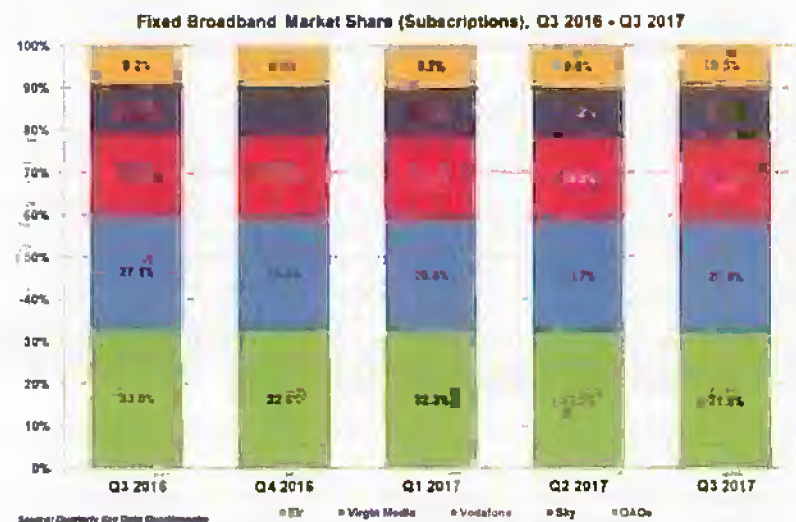


The figure above indicates the quarterly growth in fixed and mobile broadband subscriptions since Q3 2015. In general, there has been a steady growth of fixed broadband subscriptions and a decline of mobile broadband subscriptions. It should be noted that ComReg reports on active broadband subscriptions and the mobile broadband subscription numbers reported by ComReg do not include internet access over mobile handsets (such as smartphones)

The figure below provides an indication of the market share of market participants in Q3 2017 for the preceding year, taken from the most recent consumer and SME business surveys undertaken by ComReg.²

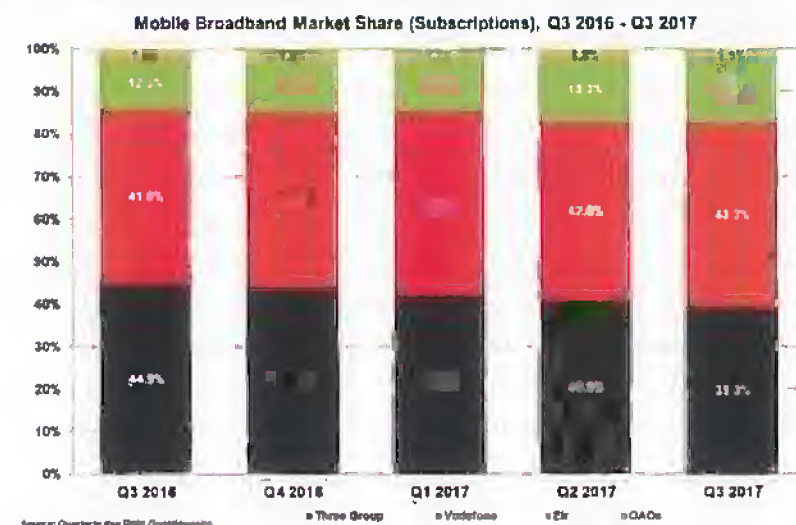
² ComReg Irish Communications Report, Q3 2017

Figure 11: Split of fixed broadband market by retail service provider



The figure above indicates that the fixed broadband market in Ireland has remained relatively static over the last year with eir remaining the largest market player followed by Virgin Media and Vodafone.

Figure 12: Split of mobile broadband market by retail service provider



The figure above highlights the movement of the market share of mobile broadband operators by subscriptions. In Q3 2016, Three Group had the largest market share (44.9%). In Q3 of 2017, Vodafone holds the position of the largest market share of mobile broadband subscriptions. The most significant movement in the 12 month period is the decline in Three Groups market share, circa 5.6%

3.1.3 Market failure

According to the PWC Cost Benefit Analysis report, the provision of next generation broadband is widely acknowledged as bringing significant socio-economic benefits which include promoting growth, increasing economic competitiveness and social cohesion. It has been estimated by the

European Commission that a 10% increase in broadband penetration can lead to a 1-1.5% increase in GDP for example.³ As noted in the Broadband Strategy for Ireland and Cost Benefit Analysis prepared by PwC there are significant benefits as described in Section 4 for the Irish Society as a whole through the delivery of next generation broadband to all premises in Ireland.

Despite the benefits brought about by next generation broadband there remain large parts of Ireland that are not currently receiving next generation broadband services and instead either receive basic broadband services or they have no broadband service at all. As noted in the Strategy, Ireland's widely dispersed population and topography presents a significant challenge in delivering next generation broadband, with significant differences in population densities between rural and urban areas. There are many areas therefore where it is unlikely to be viable for the private sector to invest in the provision of next generation broadband services. There is an estimated 545,000 delivery points⁴ that will not be served by a next generation broadband network if left solely to the current market proposals as notified to DCCAE, [REDACTED]

Given the current absence of market proposals to deliver next generation broadband to these premises, the Broadband Strategy for Ireland has proposed a wholesale intervention which will allow retail service providers to obtain access to next generation broadband infrastructure at the wholesale level, enabling them to compete with each other, on a level playing field, in supplying retail services to end users in the Intervention Area. This is in line with the regulatory approach adopted by the European Commission which proposes that interventions should, in the first instance, focus on addressing market failure in the wholesale market. The next section examines the proposed objectives and principles as set by DCCAE and the Intervention Strategy.

The market failure that is to be addressed by the proposed intervention has been examined in detail by PwC in their State Aid Compliance assessment.

³ European Commission, "Digital Agenda for Europe" <http://ec.europa.eu/digital-agenda/en/broadband-strategy-policy>

<http://www.dccnr.gov.ie/Communications/National+Broadband+Plan/Broadband/County+and+Townland+Maps.htm>

⁴ A delivery point is a postal address used to enable delivery of mail based on An Post GeoDirectory.

4 Objectives

4.1 Project needs and objectives

4.1.1 Project needs

National Context

The National Broadband Plan for Ireland is designed around the Government's stated objective to deliver high speed broadband to all citizens and businesses in Ireland as set out in the Programme for Government, the Action Plan for Jobs 2014 and the Government's 2014 Statement of Priorities. It followed on from the findings of the Next Generation Broadband Taskforce and reflects a recognition of the increasing importance of take-up of digital services for economic growth, delivery of key services and participation in society.

The Taskforce identified two key strands of action to take to achieve the aim of ubiquitous access to high speed broadband services:

- Encourage and facilitate the commercial rollout of high speed services
- Consider intervention for the segments of the population where commercial investment is unlikely to occur without action from Government

The Plan aimed to deliver on these targets by leveraging investment from both the private and public sectors.

In April 2014, the Government approved a more ambitious Intervention aiming to be future proofed and long term, recognising that high speed broadband is a key infrastructure for a 21st Century society. The focus was on a long term, future-proofed infrastructure build. This infrastructure is aimed to deliver a network that is capable of meeting future data demands in a rapidly evolving market.

European Context

Encouraging investment in the deployment of high speed broadband infrastructure is also a policy priority in the European context. In May 2010, the European Union launched its ten-year jobs and growth strategy, Europe 2020. The Digital Agenda for Europe (DAE) is one of the flagship initiatives of this strategy and aims "to help Europe's citizens and businesses to get the most out of digital technologies". There are seven main goals:

- Improve ICT standard-setting and interoperability;
- Enhance trust and security;
- Increase Europeans' access to fast and ultra-fast internet;
- Boost cutting-edge research and innovation in ICT;
- Empower all Europeans with digital skills and accessible online services;
- Unleash the potential of ICT to benefit society, and
- Delivering the Digital Strategy for Europe.

Key sub-goals in this Digital Agenda Strategy are set out below:

Increase Europeans' access to fast and ultra-fast internet

- The 2020 target is internet speeds of 30 Mbps or above for all European citizens, with half of European households subscribing to connections of 100Mbps or higher;
- Today only 1% of Europeans have a fast fibre-based internet connection, compared to 12% of Japanese and 15% of South Koreans;
- Very fast internet is essential for the economy to grow strongly, to create jobs and prosperity, and to ensure citizens can access the content and services they want;
- The Commission will inter alia explore how to attract investment in broadband through credit enhancement mechanisms and will give guidance on how to encourage investments in fibre-based networks.

Empower all Europeans with digital skills and accessible online services

- Over 70% of Europeans (350 million) use the internet every day, but another 20% have never used it. Everyone, young and old, irrespective of social background, is entitled to the knowledge and skills they need to be part of the digital era since commerce, public, social and health services, learning and political life is increasingly moving online.

A number of European Union Member States have, therefore, embarked on a range of programmes to address the disparity.

Purpose of Intervention

The proposed intervention here in Ireland set out that it aimed to address:

- Economic growth: the ability to access NGA broadband will contribute to Ireland's potential for economic growth. The focus of government intervention in rural areas will assist to rebalance economic potential across Ireland's economy; and
- Social equity: there is the risk of a "digital divide" emerging where some households do not have access to the same range of broadband applications and services available to the majority of households in Ireland, because of the area they are located in. The government aims to minimise this as much as possible over the same period that the market place is providing improved broadband to more populated areas of Ireland

The Government's strategy aims to provide an environment that enables suppliers to deliver a broadband service at an affordable price to the majority of households that currently experience a sub-standard service, or no service at all. Without such strategic intervention there is no evidence at present to suggest that suppliers would pursue cost prohibitive investments for the sake of equality.

Benefits for Ireland

Many studies⁵ show that access to broadband stimulates employment, GDP and productivity growth and almost all agree that broadband has had wide positive impacts. Access to broadband for households and businesses is seen by the Government as an important part of Ireland's economic infrastructure. These benefits as identified by PWC include the following:

⁵ https://www.itu.int/ITU-D/treg/broadband/ITU-BB-Reports_Impact-of-Broadband-on-the-Economy.pdf
[http://www.europarl.europa.eu/RegData/etudes/IDAN/2015/565891/EPRS_IDA\(2015\)565891_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/IDAN/2015/565891/EPRS_IDA(2015)565891_EN.pdf)
<https://www.ericsson.com/res/thecompany/docs/corporate-responsibility/2013/ericsson-broadband-final-071013.pdf>
http://eprints.lse.ac.uk/23830/1/UK_Digital_recovery.pdf

Relocation opportunities⁶

There is currently a major housing shortage crisis in many Irish cities, in particular in the Greater Dublin Area. Large city centres are also experiencing congestion issues as a result of the location of white collar employment. PWC outline a clear need for the National Broadband Plan, which can mitigate some of the issues being experienced in city centre areas at present.

The introduction of high speed broadband could enable white collar workers to relocate from urban areas to rural areas and work "remotely". Unfortunately this is not an option for many workers at the moment due to the lack of high speed broadband in rural areas. In addition, this could have many potential benefits,

- Positive effects on the ongoing housing crisis as white collar employees can move outside of the city centre district and work remotely resulting in less demand for housing stock in already overpopulated urban areas and increased demand in rural areas;
- Positive effects on rural communities, greater spread of economic development, connectivity with larger city locations; and
- Reduces congestion in urban areas such as Dublin city centre while also having environmental benefits.

Educational benefits⁶

The future of education will be underpinned by online education, research and resource tools. The intervention area set out under the National Broadband Plan has more than 360,000 people aged between 5 and 18 years who would not only benefit from the project, but also who need access to high speed broadband to improve the quality of their education. For example, studies have shown that broadband and ICTs positively impacted learning outcomes in maths, science and language skills.⁶

The strategy outlined by PWC states that the roll of the National Broadband Plan will allow for improvement in the quality and accessibility of educational services through:

- Online education tools which supplement the in-class learning experience; and
- Greater access to specialist teaching resources in sparsely populated areas

In addition to this, they identified a great need for the deployment of high speed broadband infrastructure in order for our population to remain competitive in the European workforce in the future. A report published by the European Commission noted that almost half the EU population (47%) is not properly digitally skilled, yet in the near future, 90% of jobs will require some level of digital skills.⁷

Accordingly, there is a need to bridge the connectivity divide to ensure that today's students and tomorrow's workforce can take advantage of these benefits.⁸

Introduction of eHealth⁸

Every sector and market are continuing to be subject to more and more digitisation, which will have positive impacts for its users. The health sector is an area which has embraced digitisation, allowing for major health benefits to be pioneered. However, there is a need for the deployment of high speed broadband infrastructure in order for its benefits to be delivered. Such benefits outlined by PWC which could be achieved through the implementation of the NBP include:

⁶ The ICT Impact Report. A Review of Studies of ICT Impact on Schools in Europe, http://www.aefeurope.be/documents/RAPP_doc254_en.pdf

⁷ European Commission: Why we need a Digital Single Market

⁸ PwC: Broadband Strategy for Ireland

- The NBP could bring potential health benefits due to scope for the remote monitoring of people in their homes and for the improved home-based management of people suffering from chronic health conditions.
- The NBP could also bring a reduction in the cost of care as a result of the use of virtual doctors and avoided admission of individuals to institutional care settings, with home care packages offered instead.

Farming practices⁹

PWC outline that encouraging investment in the deployment of high speed broadband infrastructure also has the potential to positively impact on farming practices in Ireland. The farming sector is crucial to Ireland's economy – an important indigenous sector which employs a significant proportion of the population.

The NBP has the potential to improve the efficiency of farming practices through "Smart Farming" which is the use of technology in farming to overall increase output and reduce prices. This can be done through the following activities;

- Dynamic nutrient management
- Data driven crop management
- Centrally managed enhanced data records
- Remote medical monitoring
- Online administration management

Digital Single Market⁹

In 2015 the European Commission published a strategy called the Digital Single Market ("DSM") which aims to open up digital opportunities for people and business and enhance Europe's position as world leader in the digital economy.

This strategy states that it is essential that EU businesses grasp the opportunities of digital technology to remain competitive at global level, that EU start-ups are able to scale up quickly, with full use of cloud computing, big data solutions, robotics and high speed broadband, thereby creating new jobs, increased productivity, resource efficiency and sustainability. One of the main strategic objectives of the strategy to be achieved by 2025 is to give every European access to 30 Mbps connectivity. Therefore there is a need for the deployment of high speed broadband in Ireland in order for us to meet this European Strategic objective and to fully grasp the opportunities which digital technologies have to afford.

Many measures at a European level have been taken in line with the DSM strategy such as: The abolishment of roaming charged across EU in June 2017 and the upcoming General data Protection Regulation ("GDPR"). In a report published by the European Commission "Mid-Term Review on the Implementation of the Digital Single Market"⁹ it was stated that in order to fully equip the EU with high quality end fast telecommunications networks, it is critical that Member States continue having a coordinated approach to spectrum policy with the Irish Broadband Intervention playing a vital part in reaching this target.

4.1.2 Project objectives

The DCCAE Programme Initiation Document ("PID") sets out a number of objectives and related sub-objectives that the project is expected to deliver. These are:

⁹ European Commission (2017): Mid-Term Review on the Implementation of the Digital Single Market Strategy

Table 1: Project objectives and sub-objectives

Objective	Sub-objectives
Develop intervention strategy for areas commercial operators will not deliver high speed broadband	Deliver intervention ASAP to ensure a national high speed broadband network for Ireland
Provide high quality and reliable broadband services	Every home / business to have access to high speed broadband with choice of service providers. Ensure network can meet current and future data demand.
Value for money	Design economically advantageous procurement strategy. Maximise re-use of existing infrastructure. Incentivise additional commercial investment.
Underpin Government policy on economic recovery and jobs	Stimulate retention/growth in jobs, enable farming, e-health, trading online, tourism, savings for consumers etc.

Within the context of these objectives there are a number of principles¹⁰ that have been identified by the programme which inform the intervention strategy to be adopted. These principles are:

- **Deliver a 'step change' in service level** - The intervention should deliver a 'step change' in broadband provision with next generation quality services and speeds provided and significant additional infrastructure created to deliver the social and economic objectives of the Irish Government and also required under EC State Aid Guidelines.
- **100% Coverage** - The intervention should ensure 100% next generation broadband coverage to all premises in Ireland. This means delivering high speed broadband to all premises that will not be able to access such services through commercial investment alone.
- **Intervene where the market does not deliver** - The intervention should be limited to areas where the market has failed to deliver and has no concrete plans to deliver.
- **Stimulates private investment** - The intervention should not seek to replace private sector investment in broadband infrastructure but should stimulate private sector investment. The intervention should be the minimum level necessary to ensure that the most efficient and cost effective network is built within the shortest possible timeframe, by building on and integrating with commercial operators' existing networks.
- **Minimise distortions to the market for operators whilst delivering for consumers** - Negative impacts on, and distortions to, the existing supplier market should be minimised by designing the intervention to safeguard competition and non-discrimination (e.g. through Open Access principles), whilst delivering the desired outcomes for consumers in the intervention area in terms of high quality next generation broadband services at competitive prices.
- **Promote competition at the retail level** - The intervention must promote active competition at the retail level, thereby offering real choice to consumers. Given that competitive retail markets tend to evolve where a suitable offer of wholesale services is assured, the State intervention should focus at the wholesale level of the broadband market.

¹⁰ Sourced from the Intervention Strategy

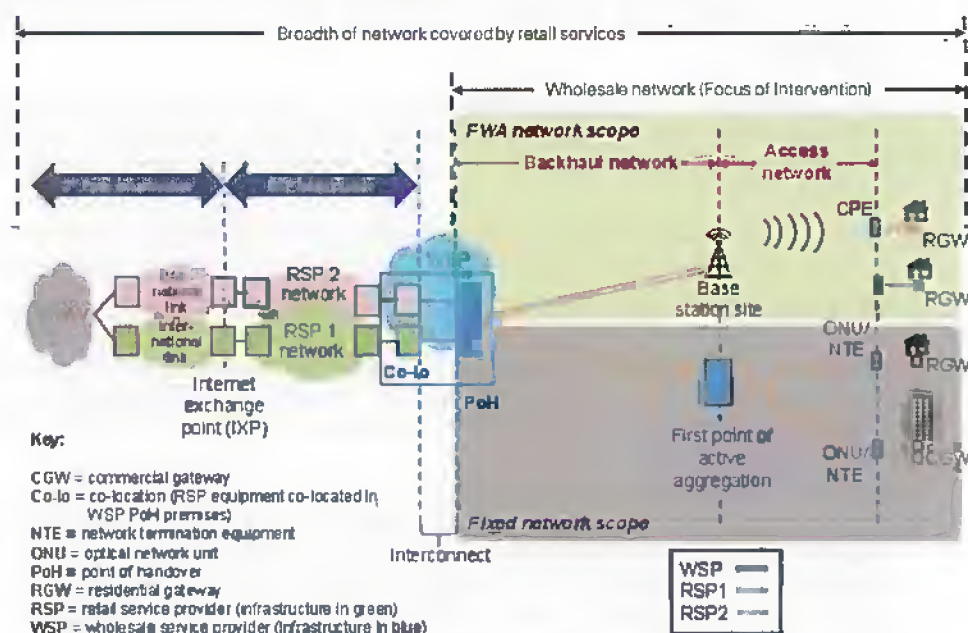
- **Aid social policy objectives** - The intervention should aid the Government in achieving its social policy objectives by offering new, cost effective routes for the provision of public services such as eHealth and eGovernment and bringing high speed broadband to strategic locations such as hospitals, schools, business parks etc.
- **Appropriate allocation of risks** – The Intervention should seek to allocate risks to the party best able to manage them, improving the benefits derived from the infrastructure and ensuring its long term success.
- **Future Proofed** - The intervention should ensure that the infrastructure is "future proofed", offering a sustainable solution that will bridge Ireland's digital divide for the long term through ongoing investment at minimal or no cost to the public sector.

4.2 Summary of the intervention strategy

The intervention is envisaged as being a single (one-off), Government led, technology neutral, stimulus that is designed to leverage private sector investment in wholesale, open access, next generation broadband infrastructure across the backhaul network and access network layers of the market, which will provide next generation broadband connectivity for 100% of customers in the intervention area.

The scope of this intervention is presented diagrammatically below.

Figure 13: Scope of the intervention strategy



Source: Analysys Mason

The intervention is designed to secure the delivery of all of the wholesale network infrastructure that is necessary to cover 100% of premises in the intervention area and to facilitate and encourage effective competition at the retail level of the market.

The Government's intervention strategy is being delivered through a public procurement process, designed to encourage effective competition at the procurement stage and minimise distortion of

the market whilst also ensuring that the level of the Government stimulus that is required is minimised.

The current ownership model being procured is the Gap Funded Ownership model. The next section of the report re-examines this ownership model along with other potential ownership options that might be used to deliver the Government stimulus.

5 Explore options taking account of constraints

5.1 Overview

In carrying out this project reappraisal, a key component was to identify the range of options to be re-assessed at this stage. The guidelines require the following primary categories of potential options: the Base Case ("do nothing"); and the do-something case

In determining the range of potential options to be assessed as part of the re-appraisal of the project, reliance has been placed on the significant amount of research undertaken as part of the original project appraisal. As part of that work, it was identified that a significant body of literature exists that examines the models that can be and have been used to deliver significant investment in next generation broadband networks and services in other countries. From the sources reviewed it was noted that, aside from terminology, the key features of many of these models were broadly similar.

The key sources of information used to inform the potential options to be assessed include:

- A report commissioned by the European Commission¹¹ identifies four potential options that could be used to deliver the intervention. These ownership options are as follows: operator subsidy model, community broadband model, privately run municipal network model and publicly run municipal network model.
- The European PPP Expertise Centre ("EPEC"), an initiative between the EIB, EC and EU member states, recommended four potential PPP options that could be used to deliver next generation broadband¹². These options and their attributes were as follows: (1) private design, build, operate, (2) PPP Joint Venture ("JV"), (3) Public Outsourcing/Government owned Contractor operated ("GOCO") and (4) Public Design, Build, Operate.
- One other form of intervention to be considered came through a review of European Commission State Aid decisions. This was the provision of support in kind to the private sector, a model used as part of the Federal Framework Programme¹³ in Germany.
- Case study review of other broadband programmes including:
 - UK Rural Broadband Programme
 - Italy's Progetto B.U.L. Lombardia
 - New Zealand's Ultra-Fast Broadband Initiative
 - France's Auvergne Haut Debit
 - Ireland's Metropolitan Area Network
 - Australia's National Broadband Network

The options to be assessed by DCCAE and its advisors have also been informed by information gathered to date in the current procurement process.

¹¹ European Commission, "Guide to High-Speed Broadband Investment", Release 1.1 22 October 2014

¹² EPEC, "Broadband Delivering next generation access through PPP"

¹³ European Commission, "Germany- Federal framework programme on duct support"

5.2 Options for the intervention

On the basis of the objectives and underlying principles of the project set out in section 4.1, the intervention strategy set out in section 4.2 and the models described in sections 5.1 above, eight options were selected by DCCAIE and its advisors for preliminary re-appraisal.

An overview of the assumed potential structure of each option along with the possible benefits and drawbacks based on these assumptions is set out below.

5.2.1 Option 1 – Do Nothing

Assumed Structure

The State does not intervene in the market and the commercial operators may roll out to the Intervention Area as they see appropriate within their own timeline.

Under this option, the current National Broadband Plan procurement process and the project would be cancelled.

Possible Benefits

- No Subsidy Payments are required by the State;
- It is permissible under the tender documents to cancel the procurement (PIM, ITPD & ISDS are clear that procurement may be stopped at any time). According to the PIM the State would not be obliged to pay Bidder costs as it states that there will be no entitlement to costs; and
- No issue from a state aid perspective as there will be no longer be a transfer of state resources.

Possible Drawbacks

- Policy objectives as outlined in section 4.1 may not be achieved, at least in the medium term;
- Loss of economic benefits associated with the implementation of High Speed Broadband which are set out in section 4.1.2
- Option 1 may have implications for Ireland's competitiveness in relation to foreign direct investment;
- There may be a 'digital divide' between a large proportion of rural and urban areas in Ireland unless commercial providers rollout high speed broadband;
- [REDACTED]
- A loss of bidder market confidence in the government's ability to run an effective procurement for broadband; and
- A significant amount of public funds and private sector funds will have been spent with limited outcomes or benefit for the State.

5.2.2 Option 2 – Continue ‘as is’ - Private sector build, finance, own and operate with obligations (gap funded)

Currently Proposed Structure

The public sector contracts with a private sector partner who will finance, design, build, own and operate the broadband infrastructure. A pre-determined level of capital subsidy will be paid to the private sector operator through grants, which are paid during deployment and through the operational life of the contract. The grant amount will be the minimum amount necessary for the private sector to deliver the project whilst also making an acceptable rate of return, and will be subject to clawback mechanisms that track actual financial performance against forecasts during network build, operations and at contract expiry. The private sector partner will bear the risk associated with wholesale network deployment, operation and exploitation over the 25 year contract term and beyond, and the payments of capital grant (upfront and during operation) will be subject to the operator meeting the milestone requirements and performance standards in the contract. The private sector will also take the risk around take up assumptions and revenues forecast. The private sector will retain ownership of the network at the end of the 25 year contract.

Under this option, the current National Broadband Plan procurement process would continue with one Bidder.

Possible Benefits

- Provided the Bidder progresses through the detailed evaluation process on the programme as it stands, no change to currently proposed target timeline;
- The State will likely benefit from private sector specialist expertise in the design, deployment and operation of high speed broadband network;
- Should the contract be enforced by the Department and operate as intended, risks associated with network build, ongoing operations and maintenance, commercial risk (including take-up and revenue) and ownership of assets are borne by private sector;
- Should the contract be enforced by the Department and operate as intended, subsidy payments dependent on performance ensures that the private sector provider delivers a quality service;
- Should the contract be enforced by the Department and operate as intended, the private sector will be commercially incentivised to maximise the efficiency of operations with savings through additional returns being shared with government over the life of the contract;
- Has the potential to achieve synergies with the existing market, given the 100% ownership by the private sector and the nature of the current market as set out in Section 3.1.1 of this report;
- Should the contract be enforced by the Department and operate as intended, future capital requirements will be borne by the private sector, and
- Should the contract be enforced by the Department and operate as intended, it will likely future proof the network by ensuring the winning bidder is incentivised to maximise future revenues and encourage competition in the market at a retail level.

Possible Drawbacks

- Lack of competitive tension as a result of only one Bidder remaining in the process however this can be mitigated to some limited degree by exerting competitive pressure as described in 9.3.1;

- The State will be required to provide capital funding with no ownership in return, however, should the contract be enforced by the Department and operate as intended, there will be contractual protections to provide similar benefits (i.e. deployment clawback, whole of life clawback and the Bidder will price in a Terminal Value benefit of the assets the Bidder will retain at the end of the Contract which will reduce the subsidy compared to a concession model);
- The State will be committed to making payments to the private sector over 25 years;
- The State will not have direct control over the project and the rollout, however should the contract be enforced by the Department and operate as intended, the current contract provides for obligations and ongoing monitoring, reporting and governance;
- The private sector may benefit from accelerated rollout or capital cost savings; however should the contract be enforced by the Department and operate as intended, the contract is designed to return a proportion of cost savings during deployment through a claw back mechanism;
- The private sector will have sole rights to commercial exploitation of the asset post contract but it is required to assume a Terminal Value in its financial model and should the contract be enforced by the Department and operate as intended, there will be clawback for additional benefits above the assumed Terminal Value;
- Should there not be sufficient commercial return at the end of the contract term, there is a risk that the private sector partner would no longer provide services to these areas at that point. However, there will be assets in the business with a residual value as the majority of the assets will have a useful life beyond 25 years; and
- The public sector will bear reputational and policy risk should the project company fail to deliver the objectives of the intervention.

This option has a number of sub-options which are set out below. The sub-options have similar benefits and drawbacks to that described above, with the following exceptions.

Sub Option	Benefits	Drawbacks
Option 2(a) Gap funded model with shared revenue risk	<ul style="list-style-type: none"> • The State will receive a share of the benefits from any increase in take-up and demand, and • The private sector partner would be taking less commercial risk and as such this could reduce the required IRR and thus, the government subsidy required 	<ul style="list-style-type: none"> • A share of the commercial risk associated with take-up and revenue will be transferred to the public sector and as such the public sector will share in any downside. • Shared revenue risk would represent a change to the project and further detailed analysis would be required before selecting this option. Detailed due diligence of the business plan and market risk would be required to assess the risk transfer being considered if there is a decision to take some of this risk back, and • According to legal advice, this option has a high risk of a procurement challenge due to the change in scope, unless the process is re-procured. If the project is re-procured this would result in a delay.
Option 2(b) Gap funded model with reduced scope (95%) with remaining area being funded separately, for example being serviced by USO obligation	<ul style="list-style-type: none"> • Reduced Subsidy upfront 	<ul style="list-style-type: none"> • According to the technical advisors, the alternative methods for 5% are likely to cost more than addressing the 5% in the gap funded approach. • There may be delayed delivery for 5% of premises; • There may be a delay in the achievement of all the economic benefits • According to legal advice, EU commission may need to be consulted with respect to the reduced scope; and

<p>Option 2(c) Gap funded model with reduced scope (80%) with remaining area being funded separately, for example being serviced by USD obligation</p>	<p>• Reduced Subsidy upfront</p>	<ul style="list-style-type: none"> • According to legal advice, EU may need to be consulted with respect to ERDF funding and state aid funding to ensure that the project still qualifies • There may be delayed delivery for 20% of premises; • There may be a delay in the achievement of all the economic benefits. • According to the technical advisors, the alternative methods for 20% are likely to cost more than addressing the 20% in the gap funded approach. • According to legal advice, potential for procurement challenge due to the change in scope, unless the process is re-procured; • According to legal advice, EU commission may need to be consulted with respect to the reduced scope; • According to the legal advice, EU may need to be consulted with respect to ERDF funding and state aid funding to ensure that the project still qualifies; and • This may not be as attractive to current bidders.
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5.2.3 Option 3 – Cancel the tender process and re-procure as a concession contract with revenue risk

Assumed Structure

The public sector will contract with a private sector partner who will finance, design, build and operate the broadband infrastructure. The private sector will derive economic benefit from the infrastructure for the duration of the contract at which point ownership will revert to the public sector (at no additional cost). On a similar basis to the Gap Funding option, capital subsidy will be paid to the private sector operator during deployment and through the operational life of the contract. The payments will be the minimum amount necessary for the private sector to deliver the project whilst also making an acceptable rate of return during the concession period, and will be subject to clawback mechanisms that track actual financial performance against forecast during network build and operations. The private sector bears the risk associated with wholesale network deployment, operation and exploitation over the 25 year contract term and the payments of subsidy (upfront and during operation) are subject to the operator meeting the performance standards in the contract.

This will require appropriate safeguards to ensure the transfer of high quality assets back to the public sector. In addition, the public sector will require that the wholesale network is built (and access rights secured) so that it is capable of being operated by Government (or by a successor operator) when ownership reverts to Government at the end of the contract term.

Under this option, the current National Broadband Plan procurement process would be cancelled and the project would be re-procured as a concession contract.

Possible Benefits

- According to the legal advice, the PIM and the ISDS expressly state that the procurement can be terminated and the project procured in a different way separately. Consequently, a different ownership model approach could be taken in that case when re-tendering.
- According to the legal advice and technical advice, it would be possible to utilise the work completed to date (e.g. technical specifications, contract, tender documents);

- Depending on the design and operation of the contract, the service provider should be able to roll-out to 100% of premises although it will not be within the target timeframe;
- Depending on the design and operation of the contract, risks should be passed to the party best able to manage them over the contract term;
- This option may achieve some synergies with the existing market;
- The public sector will have ownership of the assets after contract concession allowing it to capture all future benefits associated with the network;
- This option, while not typical in this sector, has been used in some other jurisdictions; and
- Depending on the design and operation of the contract, a large portion of risk may be passed to the private sector over the contract duration.

Possible Drawbacks

- There may be loss in market confidence if the current procurement process is cancelled and there may not be potential bidders for the re-procurement of the contract;
- Re-procurement would adversely impact project timelines;
- The State again may not have direct control over the project and the rollout, however depending on the design, operation and enforcement of the contract, the contract could provide for obligations and ongoing monitoring, reporting and governance;
- The State may not be able to pass all of the risks associated with this intervention to the private sector given that it will own the asset after the contract period;
- The public sector will assume all risk associated with ownership of assets after contract cessation;
- It is likely that the private sector would likely price in its required returns based on the project over the life of the contract rather than the asset life plus price in the cost of future hand back requirements which may lead to a higher subsidy cost;
- Potential synergies such as leveraging of existing infrastructure may not be utilised;
- The private sector may benefit from accelerated rollout or capital cost savings. However, depending on the design, operation and enforcement of the contract, clawback may be included in the same way as the current approach;
- It may be difficult to ring fence and identify the exact fibre assets which are under public ownership as they may be integrated into existing network infrastructure;
- The public sector will bear the long term risk of ensuring that the network continues to be able to rely on any third party infrastructure to which it is connected;
- Depending on the design, operation and enforcement of the contract, there may be limited commercial incentive for the private sector to continue to build the business, innovate and diversify towards the end of the contract term;
- At contract term, the operator would need to ensure that appropriate transfer/access rights to IP are transferred with the fibre assets and any interconnect and inter-operator agreement would need to be transferrable to the next entity; and
- The State would bear technology and network obsolescence risk.

This option has a number of sub-options which are set out below including the benefits and drawbacks of each:

Sub Option	Benefits	Drawbacks
Option 3(a) Concession model with shared revenue risk	<ul style="list-style-type: none"> The State will receive a share of the benefits from any increase in take-up and demand, and The private sector partner would be taking less commercial risk and as such this could reduce the required IRR and thus, the government subsidy required 	<ul style="list-style-type: none"> The State will be taking a share of the market/demand risk in relation to the revenues and will share in the downside of any reduction in revenues; and Shared revenue risk would represent a change to the project and further detailed analysis would be required before selecting this option. Detailed due diligence of the business plan and market risk would be required to assess the risk transfer being considered if there is a decision to take some of this risk back.
Option 3(b) Concession model with reduced scope (95%) with remaining area being funded separately, for example being serviced by USD obligation	<ul style="list-style-type: none"> May reduce Subsidy upfront. 	<ul style="list-style-type: none"> There may be delayed delivery for 5% of premises; There may be a delay in the achievement of all the economic benefits; and According to the technical advisors, the alternative methods for 5% are likely to cost more than addressing the 5% in the gap funded approach
Option 3(c) Concession model with reduced scope (80%) with remaining area being funded separately, for example being serviced by USD obligation	<ul style="list-style-type: none"> May reduce Subsidy upfront. 	<ul style="list-style-type: none"> There may be delayed delivery for 20% of premises; There may be a delay in the achievement of all the economic benefits; and According to the technical advisors, the alternative methods for 20% are likely to cost more than addressing the 20% in the gap funded approach

5.2.4 Option 4 – Public Concession

Assumed Structure

The public sector will design, build, operate and own the broadband infrastructure. It will derive all benefits associated with the infrastructure and assume the majority of risk. This involves a significantly higher level of involvement by the public sector that is recognised through greater control and potential for reward. Private sector involvement will be limited to the contracting of network design and build and also contracting for other capabilities (such as specialist advice) in a conventional way.

Under this option, the current National Broadband Plan procurement process would be cancelled.

Possible Benefits

- According to legal advice, the PIM and ISDS expressly state that the procurement can be terminated and the project procured in a different way separately. Consequently, a different ownership model approach could be taken in that case when re-tendering;
- The State will likely have full autonomy and ownership over the entity;
- The State is seen to own and operate an entity that could not exist in a commercial market without government subvention;
- The State owned entity will likely be the main and possibly only NGA provider in the intervention area; and
- Any profits of the entity will likely flow to the State.

Possible Drawbacks

- The State has limited experience of owning and operating a wholesale NGA business;
- According to legal advice, a public concession would likely be required to comply with the types of conditions set out in footnote 96 of the State Aid Guidelines, including being a wholesale only operation; the publicly owned network operators must limit their activity on the predefined target areas and not expand to other commercially attractive regions and have accounting separation between the funds used for the operation of the networks and the other funds at the disposal of the public authority;
- This option may require all funding to be provided by the State, at least until a stage where the operational revenues will be sufficient to support any debt in the project;
- The State is likely to retain all risks of the project that are not sub-contracted out;
- Potential synergies with the private sector may be lost;
- The State bears all technology and network risks including obsolescence;
- Depending on the structure of the public concession, the State may retain construction risk. However, it may be possible for the State to choose to enter into deployment contracts where some or all of this risk is transferred;
- The State will likely still have to build over or lease existing network infrastructure on similar terms to the current approach or the concession approaches;
- The State would likely bear all demand risk in a rapidly evolving sector,
- Administration is likely to be complex and costly, requiring an expansion in the role of the State in the telecoms sector,
- According to legal advice, technical advisors and the Department, this option has an additional risk of delay, as the option will effectively be a start-up which will need to build network/wholesale organisation, develop proof of concept/trials, before build/sales can commence and will likely need new legislation; and
- This option will have full exposure for the State to operating expenditure and working capital requirements over the initial years.

5.2.5 Option 5 – Negotiate directly with all Infrastructure access providers

Assumed Structure

The public sector negotiate directly with all infrastructure access providers i.e. eir or ESB in order for them to finance, design, build, own and operate the broadband infrastructure.

The quantum of subsidy required, if any, will be dependent on the outcome of the negotiations and underlying commercials.

Under this option, the current National Broadband Plan procurement process would be cancelled or have run its course unsuccessfully

Possible Benefits

- May achieve some of the objectives set out in Section 4 1.2

Possible Drawbacks

- Both eir and ESB have walked away from the current procurement process and as such, negotiations may be difficult. It is unclear why a direct negotiation on a deployment subsidy would be more attractive or offer better VFM than the current process;
- There is no guarantee that the price for deploying to the IA would be less than that received at ISDS;
- The contract obligations are likely to be significantly reduced and therefore the policy objectives may not be fully met;
- This may take a significant amount of time to deliver due to the reduction in contract mechanisms around adhering to timelines;
- The Department would likely have less control;
- According to legal advice, to directly negotiate, the Department would need to terminate the competitive dialogue and launch a negotiated procedure without a notice. According to the legal advice, there is a high level of procurement risk associated with this option, unless the Department could demonstrate that, for technical reasons, or for reasons connected with the protection of exclusive rights, the contract may be awarded only to the relevant entity. This is a high threshold and it is possible that interested parties (e.g. those previously rejected or new interested parties) may contend that they are capable;
- Direct negotiations with the incumbent or an alternative service provider such as ESB could reinforce the incumbency advantage of such companies in the Irish market, and make it more difficult and less attractive for other parties to seek to enter the market or to expand their presence in the market; and
- According to legal advice, even if this approach was in accordance with procurement rules, this form of intervention is at risk of not being compliant with State Aid guidelines. The benefit of a competitive selection process is that it reduces budgetary costs, thereby minimising the potential State Aid involved as well as reducing the selective nature of the measure. The risks here might be reduced by putting the cost calculation proposed by the Infrastructure Access Provider to examination by an external auditor (e.g. footnote 100 State Aid Guidelines), though this would require discussion with the Commission.

5.2.6 Option 6 – Subdivision of Intervention Area into 5 or more lots

Assumed Structure

The Intervention Area is divided into 5 or more lots and procured under a gap funding model similar to Option 2 or a concession similar to Option 3.

Under this option, the current National Broadband Plan procurement process would be cancelled.

Benefits and drawbacks under this option are similar to Option 2 and 3 above with the following exceptions:

Possible Benefits

- According to legal advice, the PIM and ISDS expressly state that the procurement can be terminated and the project procured in a different way separately. Consequently, a different approach to lots could be taken in that case when re-tendering;
- May increase competitive tension as some potential bidders may not have sufficient budget or capability to deliver the whole scope of the Intervention Area but might be able to compete for individual lots in a multiple lot process. Allowing individual bidding for

parts of the Intervention Area may bring more bidders to the table, which may raise the degree of competitive tension in the procurement process,

- May enable leveraging of different competitive advantages. A multiple lot approach may have the advantage of allowing tenderers to express any advantage they have in the delivery of a single lot in the form of lower bids. These advantages may include innovative network designs that are more suited one particular lot over another, or synergies with existing infrastructure in a particular lot;
- Retains option of having a single operator deliver the Intervention. A multiple lot process still allows for the delivery of the Intervention by a single operator (as long as bidders are allowed to submit bids for the entire Intervention Area); and
- This option may attract additional smaller private sector operators.

Possible Drawbacks

- The existing process did allow for a differential approach across 2 lots. No discernible benefit was identified;
- According to the technical advisors and the Department, the make-up of the Intervention Area is such that the premises are scattered across the country in no clear pattern. This makes it difficult to group the Intervention Area into Lots that would lead to a more efficient delivery of high speed broadband;
- A market sounding has not been conducted so it is difficult to determine appetite for such a structure. However, we understand from the ISDS submissions that splitting into two Lots would require a higher subsidy than one Lot. This is also likely to be the case for more than two Lots;
- Some lots may be commercially unattractive and not attract any private sector operators;
- According to legal advice, the EU Commission may need to be notified around the division of the Intervention Area into five or more lots;
- Planning and preparation work would need to be done before the re-commencement of any procurement process which may take time;
- It may increase complexity and cost of procurement process (for both bidders as well as for the bid evaluation process);
- Should the bid process result in an outcome in which different lots are served by different operators according to technical advisors, a number of other costs may arise:
 - Costs of governance of a larger number of operators;
 - Increased risk of operator default occurring during the contract period,
 - Inefficient network design;
 - Loss of economies of scale in network operations and maintenance and duplication of fixed costs such as setting up wholesale service platforms,
 - Risk of not achieving the Intervention on time (due to delays resulting from having to deal with large numbers of operators);
 - Inefficiency of network interconnection; and
 - Potential for multiple infrastructures leading to inefficiency of wholesale supply in the Intervention Area. RSPs may have to purchase wholesale services from many different suppliers – which may involve higher costs through duplication of processes and the need to adjust systems to interface with those of several suppliers.
- Previous analysis and feedback from industry indicated that a two lot approach is most appropriate.

5.2:7 Option 7 – Joint Venture

Assumed Structure

The public sector and a private sector partner form a joint venture ('JV'), most likely a Special Purpose Vehicle ('SPV'), which will design, build and operate the broadband infrastructure. Both parties will own equity in the entity and will split the risks and rewards of ownership. Equity will be invested by the State and the private sector on a 50:50 basis over the deployment period. The State will pay a social policy objective grant to the JV entity during operations. The grant will be sized to address the financial viability gap associated with the wholesale investment and the grant payments will be subject to the JV meeting specified performance levels and contractual obligations.

A sub option for the Corporate JV is for the State to hold a minority interest in a Corporate JV with a private sector partner, which will design, build, finance and operate the broadband infrastructure. Both parties will own equity in the JV entity and will share the risks and rewards of ownership according to their shareholding.

Under this option, the current National Broadband Plan procurement process would be cancelled.

Possible Benefits

- According to legal advice, the PIM and ISDS expressly state that the procurement can be terminated and the project procured in a different way separately. Consequently, a different ownership model approach could be taken in that case when re-tendering;
- Depending on the JV ownership split, the level of public sector investment is likely to be matched by that of the private sector;
- The State may be able to exert a greater level of control through corporate governance depending on the ownership %;
- This option may achieve a portion of synergies with the existing market;
- This option has been used in other jurisdictions; and
- The government will likely achieve a return on investment in the same way as the private sector.

Possible Drawbacks

- Market sounding has not been conducted so it is difficult to determine appetite for such a structure. However, a market sounding in our 2015 analysis suggested that this option was not favoured by the private sector given the potential differences in priorities for government and a private company as well as potential governance issues;
- According to legal advice, the creation of a JV would need to be considered from a public procurement, merger control and state aid perspective;
- The State would likely retain risks of the project as a joint equity shareholder in the entity;
- The State would likely share in project risk and may be required to fund the JV should additional equity be required and provide funding for further investment for infrastructure renewal to ensure that the infrastructure remains in line with commercially viable areas;
- There may be conflicts between the State's objectives and those of the private sector partner;
- According to the technical advisors, it is likely that at least half of the potential synergies savings from engaging the private sector to develop this project may be lost;

- There may be reputational risk for the Government as a shareholder;
- It may be difficult to ring fence and identify the exact fibre assets which are under public ownership as they are in most instances integrated into the winning bidders network infrastructure;
- Governance may be complex and will require an ongoing State role in the management of the JV;
- The State may also have to manage the social policy grant and ensure that an appropriate review and reporting structure is in place to ensure that social objectives are met;
- The State as part of the JV will share the long term risk of ensuring that the network continues to be able to rely on any third party infrastructure to which it is connected; and
- While the government will be taking a proportion of the risk in the project it will still be required to provide a subsidy towards the gap funding of the project in order for it and the private sector to achieve a commercial return.

5.2.8 Option 8 – Universal Service Designation

Assumed Structure

The public sector will introduce legislation for broadband to become a Universal Service Designation ("USD"). The private sector operator will finance, design, build, own and operate the broadband infrastructure. Capital subsidy will be paid to the private sector operator through grants on a five yearly look-back basis. The grant amount will be the minimum amount necessary for the private sector to deliver the project whilst also making an acceptable rate of return. The private sector partner bears the risk associated with wholesale network deployment, operation and exploitation.

Under this option, the current National Broadband Plan procurement process would be cancelled and a USD process would have to be set up through legislation and a new procurement of a USD operator.

Possible Benefits

- The State will benefit from private sector specialist expertise in the design, deployment and operation of high speed broadband network; and
- Depending on the design, operation and enforceable of the contract, risks associated with network build, ongoing operations and maintenance, commercial risk and ownership of assets are borne by private sector.

Possible Drawbacks

- Market sounding has not been conducted so difficult to determine appetite for such a structure [REDACTED]
- Cancelling the current procurement process may lead to loss of market and public confidence,
- Re-procurement and the introduction of legislation would impact project timelines;
- The State will be required to provide capital funding at the end of the Deployment Period with no ownership in return,

- Subsidy payments are not dependent on performance although the USD would likely have Service Level Agreements ("SLAs") and Key Performance Indicators ("KPIs") similar to those that exist in current legislation;
- Depending on the contract, the private sector may not be fully commercially incentivised to maximise the efficiency of operations;
- The State may not have direct control over the project and the rollout;
- No contractual mechanisms would exist although legislation would have protections in place and the regulator would have the responsibility to enforce them;
- This option could be more costly than the gap funded approach given that the funding is only provided on a 5 year look-back basis;
- USD is typically designated on an operator providing a service, not on building a network;
- According to the Department, it is noted that implementation of this option would require an EU Directive on USD. Whilst discussions are underway in relation to same, it is only at consultation stage. Delivery of this option would therefore be some time in the future at this point;
- Rigorous process for private sector USP to demonstrate a 'net burden' and therefore what subsidy would be required. The net burden incorporates intangible benefits;
- The private sector will have sole rights to commercial exploitation of the asset; and
- The public sector will bear reputational and policy risk should the project company fail to deliver the objectives of the intervention.

5.3 Constraints

With respect to the project, there is invariably some constraints in reaching the objectives. In this section, we explore these constraints (which are set out in the Public Spending Code) in order to limit the range of options to those which are feasible or acceptable.

The potential constraints are detailed below in sections 5.3.1 to 5.3.15.

5.3.1 Financial

5.3.1.1 Affordability to the State

The State has budgetary constraints which will impact: (1) the amount of upfront investment it can make in the NBP project and (2) its overall level of investment and the overall profile of spend over the next 5 years.

5.3.1.2 Balance Sheet Treatment

Balance Sheet Treatment is critical to the affordability of the project. 'On-balance sheet' classification results in increased General Government Sector ("GGS") debt and/or deficit for the purposes of EU fiscal rules. Were the Project classified as 'on balance sheet', Government would need to consider whether the Project remains affordable.

5.3.2 Technological

In the original project appraisal DCCAE and its advisers, Analysys Mason analysed a number of technological solutions that would deliver high speed broadband in the Intervention Area. These included Fibre to the Premises ("FTTP") for 100% of the IA, Fixed Wireless Access ("FWA") broadband for 100% of the IA, 95% Fibre to the Home ("FTTH") and 5% FWA and 95% FTTH and 5% FWA with reduced speeds [REDACTED]. Of the options analysed, FTTH to 100% of premises provided the lowest estimated subsidy.

[REDACTED]

However, for the purposes of this analysis it is not considered that this constraint would differ between the options set out.

5.3.3 Legal/regulatory

5.3.3.1 Sectorial Regulation

In order to deliver an optimal cost solution, the technical advice is that this intervention will need to utilise existing infrastructure in order to deliver an efficient rollout. In the Intervention Area the majority of the existing infrastructure is owned by eir, a wholesale provider of broadband with Significant Market Power ("SMP") which is regulated by the Communications Regulator ("ComReg").

[REDACTED]

5.3.3.2 Infrastructure Access legislation

The Government is currently working on developing legislation that would mandate access to eir's infrastructure in the Intervention Area for the National Broadband Plan. It is also considering legislation in relation to the price of products available in the Intervention Area and to access the Intervention Area, specifically the access prices for poles, ducts and VUA Lite. This legislation will help provide some certainty with regard to the conditions of access to existing infrastructure, including cost, for the National Broadband Plan.

[REDACTED]

5.3.3.3 Procurement Law

According to legal advice, when considering the options, it is also important to appreciate that, on this project, procurement risk can manifest itself in a number of ways, each of which would have a material adverse impact on the Government's objectives for the NBP. This includes:

- a challenge by a Bidder, a prior Bidder or interested third parties;

- a failure by the European Commission to give a positive State Aid decision or an investigation by the European Commission for breach of procurement requirements; and/or
- a refusal by the European Regional Development Fund ("ERDF") to give funding or a clawback of funding by the ERDF due to breach of a funding condition linked to procurement compliance.

According to legal advice, the PIM, ITPD and ISDS all provide that DCCAE may terminate the procurement at any time. The European Court of Justice has consistently held that it is permissible to terminate a procurement provided that the decision to do so is made in accordance with the principles of EU law, e.g. the decision should not be taken in order to discriminate on grounds of nationality.

5.3.3.4 Commission

Under certain options, there may be a requirement to inform the Commission of circumstances. This is particularly related to Option 2 'Continue as is', Commission may need to be informed of single bidder situation and also Option 6 'Subdivision of lots'.

5.3.4 State Aid rules

In respect of State Aid, according to legal advice, any risk relating to procurement is likely to be a risk of non-compliance with the State Aid guidelines which emphasise that the selection process is carried out in accordance with the public procurement rules.

5.3.5 Environmental

With respect to public sector ownership options, as the State will own and develop the network it is currently unclear if existing, privately owned infrastructure in Intervention Area will be made available to the State. This is a key issue for the deliverability of this option as the availability of existing infrastructure will minimise duplication of assets. In order to satisfy this, the State would need to either enter into a long term Infrastructure Access Agreement or purchase the existing ducts and poles in the Intervention Area.

5.3.6 Physical Inputs/raw material

The physical inputs and raw materials which are required for the network are currently available in the majority of areas.

[REDACTED] In some rural areas, there is no access to these inputs (ducts and poles) which will pose a difficulty under the contract.

5.3.7 Availability of manpower and skills

The deployment and operation of High Speed Broadband requires extensive resources, technical skills and expertise. This 'know how' is limited to a select number of telecoms companies. There are a number of contractors providing deployment services for telecoms and other utilities in the State and this contract would be attractive to them for certain options. The State would have to source the appropriate number of skilled personnel to undertake such a large project itself within the timelines required for delivery.

5.3.8 Time

5.3.8.1 Delay in procurement

Time is considered a significant constraint and any further delays should be avoided.

Any further delay in process will negatively impact on the bidder's business case for competing in the procurement. This will be mainly through other commercial operators encroaching into the intervention area and delivering high speed broadband to end users that might be closer to being commercially viable in advance of NBPco, thus resulting in NBPco retaining higher cost premises to deliver. While this is on the one hand a positive in that it may reduce the number of premises requiring intervention it is unlikely to reduce the overall subsidy required. It may in fact increase it.

eir is already half way through its rollout of fibre broadband to 300,000 premises that were originally in the Intervention Area and in some instances have passed additional premises [REDACTED]

Any further delays to the procurement process is likely to impact the technical design requirements thereby causing further delays to the successful deployment of high speed broadband to rural areas of Ireland.

5.3.8.2 Recommencement of the procurement process

The recommencement of the procurement process may result in a duplication of efforts at a cost to the State. [REDACTED]

[REDACTED] This could have a negative impact on the viability of the project as a whole.

5.3.8.3 ERDF funding

There is a time limit to ERDF funding as the current funds must be claimed by 2023. Any extension to this would have to be agreed between DCCAE and the Commission.

The key factors of eligibility for drawdown of €75m are as follows:

- Project expenditure of €150m must have been incurred. This expenditure must comply with Eligibility Rules for ERDF Funding for qualifying costs.
- Expenditure shall be eligible for ERDF Funding if it has been incurred by a beneficiary and paid before 31 December 2023.

5.3.8.4 EIB Finance

The EIB are currently looking to invest in Ireland and in this project. They have indicated the availability of €500m in debt finance. As an EU government funded bank they have an interest in the procurement process. They have also sought to understand how the Department will be ensuring the project achieves the best value for the taxpayer in the absence of a competitive process. If private finance is to be included as currently proposed, EIB will be key to reaching financial close for the project.

5.3.9 Administrative/managerial ability

Certain options are more burdensome on the State, Department and Bidders than others. This stems from the time, cost and effort required to undertake the administrative and managerial tasks.

For example, under Option 8, Joint Venture, the governance structure could be complex and require an ongoing state role in the management of the JV and there could be differences of views which may lead to slow decision making. Under option 4, state ownership and operation, administration is likely to be complex and costly, requiring significant expansion in the role of the State in the telecoms sector.

5.3.10 Distributional

The National Broadband Plan will support net job creation nationally in the short-term in the following ways¹⁴:

- improve the financial performance of existing businesses (agriculture, tourism and other internationally trading) in the Intervention Area, with positive implications for their ability to grow;
- related, improve the financial performance of larger internationally-trading businesses which depend on Intervention Area enterprises for their supply (e.g. large co-ops) with positive implications for employment;
- enable the formation of new enterprises in the Intervention Area, which would previously have been constrained by a lack of access to NGA broadband services. A high prevalence of under-employment in the agricultural sector speaks to a need and related potential in this regard;
- expand the talent pool available to non- Intervention Area employers, through the facilitation of remote working arrangements, particularly in sectors where there are important skills constraints;
- improve the satisfaction of MNCs and other non- Intervention Area employers with the productivity of Irish employees, as a result of feasible out-of-hours working, with positive implications for competitiveness.

Longer-term, the NBP will be an important contributor to the overall competitiveness of Ireland as it supports improved educational outcomes and a more tech-savvy workforce¹⁴.

Additionally, and more directly, the NBP will generate direct employment over the period of its construction and thereafter to ensure the effective annual operation of the NBP infrastructure.

This is not considered to differ between the options set out

5.3.11 Social

The National Broadband Plan has been recognised by PWC for its potential ability to make a significant contribution to the economic re-invigoration of rural Irish communities. It has been noted that one of the most significant challenges faced by rural communities is the access to and cost of high quality broadband services. The National Broadband Plan aims to mitigate these challenges¹⁴.

It states that rural communities are unable to access the cost-effective, high capacity internet services that are required to sustain a modern business environment. As such, a digital divide emerges between urbanised locations and these rural communities. The emergence of the

¹⁴ PwC: Broadband Strategy for Ireland

National Broadband Plan would narrow the gaps amongst these locations, supporting local job creation while also sustaining rural populations and supporting the social inclusion of families living in peripheral locations.

5.3.12 Spatial policy

The National Broadband Plan also is crucial element of the National Planning Framework – Ireland 2040. It states that the vision for the years ahead to 2040 must be relevant to urban, suburban and rural Ireland. Accordingly, the Ireland 2040 vision is created from building on the values that we share, including: opportunity, choice, quality, creativity, connectivity, collaboration, self-reliance and commitment. A key aspect under connectivity is the National Broadband Plan¹⁴.

5.3.13 Land use planning

Similar to 5.3.5 above.

5.3.14 Co-operation required from other Interests

Infrastructure access will be required from the incumbent for the majority of the options set out above.

5.3.15 General policy considerations

The National Broadband Project was published in August 2012 and provided a commitment to the provision of NGA broadband services to all Irish citizens and businesses, regardless of location. The plan built on a commitment contained in the current programme for Government (2011 to 2016) and its importance is re-affirmed in the Statement of the Government Priorities 2014 to 2016. Irish policy objectives in this regard are reflected at European level, with the European Commission's Digital Agenda for Europe having an objective of all EU locations having minimum download speeds of at least 30 MBPS and at least 50% subscribing to services > 100 MBPS by 2020.

The National Broadband Plan is also a key element of Government's strategy for rural Ireland which in the Government's 'Realising our Rural Potential: The Action Plan for Rural Development', which was launched in January 2017. This is the first ever whole-of-government strategy for rural Ireland aimed at delivering real change for people living and working in rural Ireland. The Plan contains 276 actions across five key pillars, all of which aim to improve both the economic and social fabric of rural Ireland. One of the five key pillars is 'Improving Rural Infrastructure and Connectivity' which includes the following key objectives:

- Bring high speed broadband to every premises in Ireland through the rollout of the National Broadband Plan and improve mobile phone access in rural areas;
- Improve rural transport links through a review of services, support for our regional airports and investment in rural infrastructure; and
- Implement flood relief measures and other land management measures to protect our rural infrastructure.

The National Development Plan sets out ten National strategic outcomes. Under the 'Strengthened Rural Economies and Communities' strategic outcome, the National Broadband Plan is listed as a priority project with a contract award date in 2018. The National Development Plan reiterates the State's commitment to intervene and subsidise the building of a new high speed broadband

network in areas of the country where there is no existing or planned commercial high-speed broadband.

Table 2: Constraints

National Broadband Plan Project Re-appraisal

5.4 Multi – Criteria Assessment

In order to determine the appropriate options to shortlist, a multi criteria analysis was performed based on a set of criteria derived from the objectives of National Broadband Intervention Strategy developed by PWC for the project. Each option was scored against these criteria. This allowed an assessment of the extent to which each option contributes to achievement of the objectives and sub-objectives for National Broadband Intervention Strategy. The objectives set out by National Broadband Intervention Strategy are set out in Table 3: Project objectives and sub-objectives below.

Table 3: Project objectives and sub-objectives

Objective	Sub-objectives
Develop intervention strategy for areas commercial operators will not deliver high speed broadband	Deliver intervention as soon as possible to ensure a national high speed broadband network for Ireland
Provide high quality and reliable broadband services	Every home / business to have access to high speed broadband with choice of service providers. Ensure network can meet current and future data demand.
Value for money	Design economically advantageous procurement strategy. Maximise re-use of existing infrastructure. Incentivise additional commercial investment.
Underpin Government policy on economic recovery and jobs	Stimulate retention/growth in jobs, enable farming, e-health, trading online, tourism, savings for consumers etc.

Source: National Broadband Intervention Strategy, PWC

The following scoring methodology has been adopted to allow the assessment of the options using the objectives set out above. The scoring is set out as follows:

Table 4: Contributions to objectives/criterion

Contribution to objectives / criterion	Score
Very high contribution	5
High contribution	4
Medium contribution	3
Low contribution	2
Very Low contribution	1
None	0

Table 5: Summary of Assessment provides a summary of the assessment of the options based on the objectives set out.

Table 5: Summary of Assessment

Contribution to objectives / criterion	Total Score	Develop information strategy for areas commercial operators will not deliver HSB				Comments based on Assumed Structures
Option 1: Do Nothing	0	0	0	0	0	The 'do nothing' option does not envisage any government intervention. It does not support the government policy for the delivery of high speed broadband to every home or business now or into the future or the government policy on economic recovery and jobs
Option 2: Gap funded model	19	5	5	4	5	The gap funded model option is structured to target the delivery of high speed broadband to 100% of premises within the target timeframe taking into account the complexities of the process. The current contract if operated and enforced by the Department, sets out a number of terms whereby the commercial operator is incentivised to ensure the prompt deployment of the infrastructure and connection of the end-users. Private sector ownership following the end of the contract term provides an incentive for the operator to invest and innovate to develop and grow the wholesale business as well as future proof the network throughout the 25 year contract period. The commercial incentives on the operator should minimise the need for further intervention by the public sector in future years. According to the Department, this option supports the government social objectives through delivering high speed broadband to 100% of the intervention area, by offering new, cost effective routes for the provision of public services such as eHealth and eGovernment and bringing high speed broadband to strategic locations such as hospitals, schools, and business parks.
Option 2(a): Gap funded model with shared revenue risk	17	3	5	4	5	According to legal advice, changing the contract to shared revenue risk is likely to be viewed as a significant change in the contract and would carry a high risk of a procurement challenge in addition to this, state aid guidelines require projects to be compliant with EU procurement law and should the commission view this as being non-compliant, then the project could potentially not qualify for State Aid clearance or ERDF funding in order to establish the Commission's view, engagement with the Commission will be necessary, this is likely to increase project timelines. There is a risk following this consultation that re-procurement may be required causing further delay to the project timeline.
Option 2(b): Gap funded model with reduced scope (95%) with remaining area to being funded separately, for example being serviced by Universal Service Designation ('USD') obligation	17	3	5	3	5	Under Option 2(b), the scope of premises in the current procurement process will be reduced to 95%, however alternative methods of delivery will be considered for the remaining 5% of premises i.e. through a potential USO. As a result, every home and business could have access to high speed broadband in the medium term. Similar to Option 2(a) above, according to legal advice the change of scope of the existing contract may be viewed as a 'substantial' change and as such, there is potentially a procurement risk as well as a risk to State Aid clearance and ERDF funding. In order to establish the Commission's view, engagement with the Commission will be necessary, this is likely to increase project timelines. There is a risk following this consultation that re-procurement may be required causing further delays to project timelines. According to legal advice, the %s proposed in the PIM were in the region of 97% accompanied by footnotes stating that the actual % could be higher, therefore we understand that there is less of a procurement risk associated with this option. There will still be some delay to the current

Contribution to objectives / criterion	Total Score	Develop intervention strategy for areas commercial operators will not deliver HSB				Commentary based on Assumed Structures
Option 2(c): Gap funded model with reduced scope (80%) with remaining area to being funded separately, for example being serviced by Universal Service Designation (USD) obligation	15	3	5	2	5	<p>procurement process, however, as detailed analysis would need to be undertaken from both a technical and commercial perspective to identify the premises to be excluded from the current process.</p> <p>A separate process will need to be completed for the remaining 5%. Significant work would be required in assessing alternative options and planning and running a separate process. According to the technical advisors, a technical solution which is cheaper than addressing the premises through the gap funded approach has not been identified and as such the extraction of such premises and their completion through an alternative means is likely to be higher than under the current procurement process due to inefficiencies, which may result in reduced value for money.</p> <p>Under Option 2(c), the scope of premises in the current procurement process will be reduced to 80%, however alternative methods of delivery will be considered for the remaining 20% of premises i.e. through a potential USO. As a result, every home and business will have access to high speed broadband in the medium term. Similar to Option 2(b) above, according to legal advice, the change of scope of the existing contract may be viewed as a 'substantial' change and as such, there is potentially a procurement risk as well as a risk to State Aid clearance and ERDF funding. In order to establish the Commission's view, engagement with the Commission will be necessary, this is likely to increase project timelines. There is a risk following this consultation that re-procurement may be required causing further delays to project timelines.</p> <p>The remaining 20% of premises will also not be delivered in the immediate term due to the requirement to assess the alternative options and run a separate process to appoint a commercial operator to deploy to the area.</p> <p>According to the technical advisors, a technical solution which is cheaper than addressing the premises through the gap funded approach has not been identified and as such the extraction of such premises and completing through an alternative means is likely to be higher than under the current procurement process due to inefficiencies, which would result in reduced value for money. Whilst for the purposes of the financial analysis, it has been assumed that the cost will at least be equal to the cost under the current procurement process, it may be higher.</p> <p>The 'concession contract' option provides for government intervention in areas that commercial operators will not deliver high speed broadband similar to Option 2. However, this option scores less with respect to the timeline for the delivery of High Speed Broadband and the commercial incentive to invest in the network.</p> <p>Under this option, according to legal advice, there would need to be a re-procurement of the project. This would cause a delay to the roll-out relative to Option 2.</p> <p>As the network reverts to public ownership at the end of the contract period, there may be limited commercial incentive for operator to invest in network or in growing the business in the later years of the contract term. Strong contractual provisions are required to ensure planned investment and future proofing is delivered in later years of the contract and to ensure the network reverts in satisfactory condition.</p>
Option 3: Re-procure as Concession contract	16	3	5	3	5	

Contribution to objectives / criterion	Total Score	Develop intervention strategy for areas commercial operators will not deliver HSB	Provide high quality and reliable broadband services	Value for money	Commentary based on Assumed Structures	
					5	Similar to Option 3 – this achieves the same score as the risks to the Public Sector are offset by lower costs.
Option 3(a): Re-procure as Concession contract with shared revenue risk	18	3	5	3	5	Similar to Option 3, however the scope of the premises will be reduced to 85% with alternative methods being considered for the remaining 5% of premises. The objective of every home and business having access to high speed broadband will not be achieved in the current project timelines. The cost of completing the remaining premises by alternative means may be higher than under Option 3.
Option 3(b): Re-procure as Concession Contract with reduced scope to 85% with remaining area to being funded separately, for example being serviced by Universal Service Designation ("USD") obligation	18	3	5	3	5	Similar to Option 3, however the scope of the premises will be reduced to 80% with alternative methods being considered for the remaining 20% of premises. The objective of every home and business having access to high speed broadband will not be achieved in the current project timelines. The cost of completing the remaining premises by alternative means may be higher than under Option 3.
Option 3(c): Re-procure as Concession Contract with reduced scope to 80% with remaining area to being funded separately, for example being serviced by Universal Service Designation ("USD") obligation	15	3	5	2	5	The public concession will deliver 100% coverage and close the "digital divide" between urban and rural areas and achieve the government policy on economic recovery and jobs to the same extent as under Option 2. In order to achieve this, it is likely that the public sector would re-use existing infrastructure. Under this option, the semi-state operator rather than the private sector partner would have the commercial incentive to invest and innovate to develop and grow the wholesale business. Relative to some of the other options, there is likely to be a delay in the roll out of high speed broadband to the Intervention Area. Option 4, according to legal advice, would require the current procurement process to be cancelled and the public sector would be tasked to design, build, operate and own the broadband infrastructure. Under this option, a government entity would need to be set-up or a semi-state entity is set up or semi state is identified, a number of procurement processes would need to be undertaken in order to appoint the contractors for network design and build and other contracting capabilities. This would require resources, time and effort from the government entity or semi state.
Option 4: Public Concession	12	1	5	1	5	According to legal advice, Option 5 is only a viable option if the current procurement process collapses and as such there would be a delay to the project timelines. Under this option the government would have direct negotiations with an infrastructure access provider in order to deliver high speed broadband to rural Ireland.
Option 5: Negotiate direct with an Infrastructure Access Provider	12	2	3	3	4	

Contribution to objectives / criterion	Total Score	Develop intervention strategy for areas operators will not deliver HSB	Provide high quality and reliable broadband services	Value for money	Underpin Government policy on economic recovery and jobs	Commentary based on Assumed Structures
Option 6: Subdivision into 5 or more lots	11	3	3	2	3	<p>Under this option, the government's negotiating leverage would be reduced and the current contract obligations may not be achievable.</p> <p>According to legal advice, the potential for the government to provide state aid under this option would need to be considered in detail.</p> <p>This option could maximise the re-use of existing infrastructure through negotiating directly with an infrastructure access provider and depending on the outcome of these negotiations, it may incentivise additional commercial investment.</p> <p>Under Option 6, the current procurement process would be cancelled and the project re-procured with the intervention area being divided into 5 or more lots. According to the technical advice, additional time would be required prior to the commencement of the procurement in order to divide the lots and additional time would also be required at final tender to appoint the preferred bidders which would have a knock on impact for the timeline for commencement and completion of the roll out of the high speed broadband.</p> <p>The subdivision of lots is likely to be inefficient and result in duplication in work and effort. There is also a risk that there may not be market appetite for all lots and that 100% coverage would not be achieved which would impact the extent to which the government would achieve its policy objectives on economic recovery and jobs.</p>
Option 7: Joint Venture	13	1	5	2	5	<p>The 'Joint Venture' option would target the delivery of 100% coverage, to close the 'digital divide' between urban and rural areas and achieve the government policy on economic recovery and jobs to the same extent as under Option 2. The State, as an equity shareholder in the JV and joint owner of the network, would take risk in the project and may need to provide additional funding for any future increased investment in the network.</p> <p>This option would require the current procurement process to be cancelled and a new Joint Venture process to be commenced. This ownership model differs substantially from the gap funded ownership model. According to the department and its advisors, key commercial, legal and technical issues would need to be renegotiated and the development of new procurement documents. Due to the compelling objectives of the government and the private sector, a number of these issues may require some time to reach agreement.</p> <p>The amount of work required to prepare the procurement documents and re-run the process would impact on the timeline for the roll-out of the high speed broadband plan.</p>
Option 8: Universal Service Designation	14	0	5	4	5	<p>Similar to Option 2, this option would aim to deliver high speed broadband to 100% of the Intervention Area to achieve policy objectives. However, there will likely be a delay to project timelines as this option, according to legal advice, requires the passing of legislation and re-procurement.</p> <p>Work would be required in assessing the alternative options and planning and running a separate procurement process for the award of a preferred bidder for their successful deployment. According to</p>

Contribution to objectives / criterion	Total Score	Develop intervention strategy for areas commercial operators will not deliver (RSB)	Provide high quality and reliable broadband services	Commentary based on Assumed Structures
				legal advice, there is currently no EU directive on USD for broadband. As such, USD legislation will need to be drafted and passed without such guidance. This would take time. Furthermore, it is unlikely that any Bidder would be willing to engage in a procurement process until the USD legislation is successfully passed. Additionally, rather than being governed by the contract, the obligations would solely exist under legislation.

Based on the above analysis of advantages, disadvantages, constraints, and multi criteria assessment, the following options have been short-listed for further assessment:

- Option 2 Gap funded model; with the following sub options:
 - Take up and revenue shared between Public Sector and the Private Sector.
 - Reduced scope to 95% delivery points with remaining area being funded separately, for example being serviced by Universal Service Designation ('USD') obligation.
 - Reduced scope to 80% delivery points with remaining area being funded separately, for example being serviced by Universal Service Designation ('USD') obligation.
- Option 3 Cancel the tender process and re-procure as a full concession contract; with the following sub options:
 - Take up and revenue risk shared between Public Sector and the Private Sector.
 - Reduced scope to 95% delivery points with remaining area being funded separately, for example being serviced by Universal Service Designation ('USD') obligation.
 - Reduced scope to 80% delivery points with remaining area being funded separately, for example being serviced by Universal Service Designation ('USD') obligation.

6 Quantify the costs of viable options and specify sources of funding

The financial appraisal model is designed to simulate the financial performance of the project over the contract period and has been developed to comply with the capital appraisal techniques required by government and constructed in accordance with best practice financial modelling.

6.1 Financial Appraisal Model

For the purposes of the quantitative analysis, the net present value ("NPV") of the cost to Government has been determined for each shortlisted option. The financial appraisal was based on costs as per the Budget Model as at March 2018 for Option 2 which is the current structure. These costs were extrapolated as a proxy for the costs of the other options.

Due to the advanced stage of the NBP procurement, a detailed financial model had already been developed to estimate the subsidy payments required under a gap funding scenario by forecasting the commercial revenue, operating costs, capital expenditure and financing costs of the private sector project SPV over the 25 year contract life and then setting the subsidy payments at a level that enables the private sector to achieve a commercial return on its investment. This model was based on the Project Financial Model Template ("PFMT") issued to bidders.

For the purposes of the financial re-appraisal, this existing financial model has been used as a proxy to estimate the subsidy payments for each shortlisted options. However, it should be noted that the structure of many of the options vary considerably from what is being procured. Accordingly, the differential in costs is prepared on a best estimates basis.

In the case of options assuming a concession contract (Option 3 and its sub options), in which ownership of the project assets reverts to the public sector at the end of the 25 year contract, the terminal value to the State has also been estimated. The NPV of the terminal value to the State has been netted against the NPV of the subsidy payments in order to determine the NPV of the cost to Government.

In the case of options assuming gap funding (Option 2 and its sub options), in which the private sector retains ownership of the project assets at the end of the contract, the terminal value to the private sector is already accounted for in determining the subsidy payments and thus the NPV of the cost to Government is equal to the NPV of the subsidy payments.

The key inputs and assumptions underpinning each option are set out in Section C.

6.2 Subsidy Payments

The Subsidy Payments are the means by which the private sector are paid for the deployment, connection and operations of high speed broadband over the 25 year contract. They have been developed in detail in schedule 5.1 of the contract. The following summarises the Subsidy Payments:

The Subsidy Payment in the current procurement are structured into the following payments:

- Deployment Milestone Payments ('DMPs') – milestone payments during the deployment of the network for passing premises;
- Connection Milestone Payments ('CMPs') – payments for connecting premises;
- Additional Connection Milestone Payments – additional payments for high cost premises; and
- Ongoing Capital Payments ('OCs') – deferred deployment payments spread over the operating period of the contract subject to deductions if Key Performance Indicators ('KPIs') are not achieved.

While the subsidy payment structure has been designed for a gap funded contract it would equally apply to a concession contract and would not be envisaged to change significantly if a concession model was used. If there is a transfer of revenue risk then there is likely to be additional contingent payment for revenue sharing.

Table 6 outlines the results of the financial appraisal of the shortlisted options.

The image shows a document page with a blue vertical strip on the left edge. The page contains several columns of text, some of which are obscured by black redaction marks. The text is arranged in a structured format, possibly a table or list, with varying column widths and some text appearing in a larger font size than others.

[REDACTED]	
[REDACTED]	
[REDACTED]	

6.3.1 Impact of Variations in Actual Take Up

The results presented in Section 6.2 assume a particular level of take up, as set out in Appendix C.3, for the purposes of determining subsidy payments. In the shared revenue risk options (Options 2(a) and 2(b)), it is assumed that this level of take up is the 'base case' take up level agreed between NBPco and the Department for the purposes of the revenue risk share mechanism, and that actual take up achieved during the project matches this 'base case' take up level.

[REDACTED]	
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The level of DMPs and OCPs will be set in the Financial Close model (subject to the impact of actual movement in HICP on the partial indexation of the OCPs). However, if the actual take up level differs from that assumed for the purposes of setting the subsidy payments based on the currently drafted contractual provisions, the cost to Government will vary as follows:

- In the options without revenue risk share:
 - If actual take up is lower, the total CMPs will be lower (as CMPs are paid based on the number and timing of actual first time connections to the network).
 - If actual take up is higher, no additional CMPs will be paid beyond the level forecast in the Financial Close model.
- In the options with revenue risk share:
 - If actual take up is lower, the total CMPs will be lower (based on the number and timing of actual first time connections to the network) but the Government will have to reimburse the private sector for an agreed percentage of the shortfall between actual commercial revenue and 'base case' level.
 - If actual take up is higher, the total CMPs will be higher (based on the number and timing of actual first time connections to the network¹⁷) and the Government will receive an agreed percentage of the additional commercial revenue above the 'base case' level.

Table 7 sets out the results of high level analysis undertaken on the potential impact of actual take up on the cost to Government. For the purposes of this analysis, the following revenue risk share mechanism has been assumed:

- If actual take up is lower than the 'base case' level assumed in the Financial Close model, the Government reimburses the private sector for 80% of the shortfall between actual commercial revenue and 'base case' level;
- If actual take up exceeds the 'base case' level assumed in the Financial Close model, the Government receives 80% of the additional commercial revenue above the 'base case' level.

For the purposes of determining the NPV of the revenue risk downside/upside, the risk share amounts due to/from Government are assumed to occur in the same quarter as the associated commercial revenue, however in practice it is likely that these adjustments would be calculated and paid retrospectively on a less frequent basis.

¹⁷ Capping the CMPs at the level forecast in the Financial Close model for a revenue risk share option would disincentivise the private sector from seeking additional connections beyond the level forecast in the Financial Close model, as the private sector would only receive a minority share of the commercial revenue associated with these additional customers which may not be sufficient to provide a return on the cost to connect such customers.

[REDACTED]

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National Broadband Plan Project Re-appraisal

obtained some indicative infrastructure access prices which would require legislation to be

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National Broadband Plan Project Re-appraisal

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7 Non-financial appraisal

7.1 Introduction

This section of the report provides an assessment of each shortlisted option in non-financial terms using impact statements and a weighting and scoring approach.

7.2 Non-financial criteria

Impact statements have been used to describe the contribution of each option to the achievement of the strategic objectives and principles of the project (see section 4).

Impact statements have been prepared for six non-financial evaluation criteria that are derived from the NBP project objectives and principles and agreed with DCCAE. The non-financial criteria are presented overleaf in section 7.2.1.

The contribution of each option to each of the non-financial criteria has then been scored, using the scoring methodology below.

Table 10: Scope of the Intervention strategy

Contribution to objectives / criterion	Score
Very high contribution	5
High contribution	4
Medium contribution	3
Low contribution	2
Very Low contribution	1
None	0

The six criteria are set out in the table overleaf, together with the weighting that has been awarded to each criterion reflecting its perceived importance to the success of the intervention in delivering its intended outcomes as agreed with DCCAE.

7.2.1 Criteria and weightings for non-financial appraisal of options

Table 11: Criteria and weightings for non-financial appraisal of options

Criteria	Contributing factors	Weighting %
Criterion 1. Coverage	Secures wholesale NGA coverage for 100% of premises in the Intervention Area within the target timescale	20
Criterion 2. Market effectiveness	Supports open access and effective competition at a retail level on the new NGA network	20
	Supports the development of new products and services for RSPs and end users	
	Provides effective controls and safeguards to protect against discrimination / market abuse	
Criterion 3. Incentives to Invest	Incentivises Investment and Innovation to develop and grow the wholesale business throughout the next 25 years	15
	Incentivises Investment In, and future proofing of, the wholesale network throughout the next 25 years	
	Minimises the need for further intervention by the public sector in future years	
Criterion 4. Protects the public interest	Provides safeguards to protect against over-subsidisation / unnecessary State Aid	20
	Ensures the State receives an appropriate share of any financial benefits (taking account of the level of State Aid)	
	Provides incentives to ensure wholesale services meet or exceed the performance standards set out in the Technical Report throughout the next 25 years and beyond	
	Provides safeguards in event of continuing poor performance / non-adherence to contractual obligations	
	Provides safeguards in respect of services continuing after the end of the contract / beyond the next 25 years	
Criterion 5. Deliverability of ownership options	Attractive and deliverable in the market (including operators, investors and funders)	16
	Legally viable and commercially deliverable in a short timeframe	
	Scale and complexity of governance arrangements / management requirements for the public sector	
Criterion 6. Managing risks	Risks are allocated to the party best able to manage and mitigate them	10
	Utilises specialist sector expertise to optimise delivery of the Intervention	

7.2.2 Weightings rationale for appraisal criteria

The criteria have been given individual weightings by DCCAE and their advisors based on their perceived importance to the success of the intervention in delivering its intended outcomes as described by the objectives in Section 4. This is a reflection that certain criteria will be more important to the public sector and wider society than others.

The rationale for the weightings of each of the criteria is provided below:

- **Criterion 1. Coverage** - The overarching objective of the programme is the delivery of high speed broadband to 100% of premises in an appropriate timeframe. This criterion is therefore critical to the successful delivery of the objectives set out in Section 4 and has been assigned the joint highest weighting of 20% to reflect this.
- **Criterion 2. Market effectiveness** - The creation of a competitive and effective market is considered to be of primary importance and is viewed by the European Commission as one of the principal drivers for allowing interventions of this nature. An effective market should provide for open access and competition at the wholesale and retail levels, thereby driving value for end users. It should support the development of new products and services for RSPs and end users and should have effective controls and safeguards to protect against discrimination / market abuse. The criterion has therefore been assigned a weighting of 20%, reflecting the importance of supporting fair competition in order to drive long term value for end users and for the State.
- **Criterion 3. Incentives to invest** - The ownership option should encourage ongoing investment in, and future proofing of, the wholesale network throughout the contract term in accordance with the Strategy. The option should also incentivise investment and innovation to develop and grow the wholesale business throughout the contract term, thereby supporting its long term sustainability providing further benefits for RSPs, end users and the State. This criterion has been assigned a weighting of 15% reflecting the importance of ongoing investment in the network and in the wholesale business to the achievement (in the long term) of the Government's policy objectives for the intervention.
- **Criterion 4. Protects the public interest** - The ownership option should safeguard the public interests for which State Aid is provided. Options should therefore: provide safeguards to protect against over-subsidisation / unnecessary State Aid; ensure the State receives an appropriate share of any financial benefits (taking account of the level of State Aid); provide incentives to ensure wholesale services meet or exceed the performance standards throughout the contract term; provide safeguards in event of continuing poor performance / non-adherence to contractual obligations; and provide safeguards in respect of services continuing after the end of the contract period. This criterion is viewed as essential to the long term success of the intervention and has therefore been assigned a weighting of 20%.
- **Criterion 5. Deliverability of ownership options** - The ownership option must be deliverable otherwise the intervention will not achieve its intended outcomes. In order to be deliverable the option must be attractive to market operators, equity investors and the external funding market. It must also be legally viable and commercially deliverable. It must also have appropriate governance and management arrangements that are deliverable and sustainable within the public sector. The deliverability criterion is viewed as highly important to the success of the intervention and to the achievement of its objectives and the criterion has therefore been assigned a weighting of 15% to reflect this.
- **Criterion 6. Managing Risks** - The ownership option should ensure an appropriate allocation of risks between parties involved in the project, with risks allocated to the party best able to manage and mitigate them at least cost. The success of the intervention will therefore be dependent on there being an appropriate allocation of risk which utilises

specialist sector expertise to optimise delivery during network deployment and operation, thereby reducing timescales and costs (for Government and the operator) and delivering a higher quality of service for RSPs and end users. Poor risk allocation could lead to longer deployment timescales, higher costs of delivery and poor levels of services for RSPs and end users. Effective risk management is therefore viewed as important to the success of the intervention and as such has been assigned a weighting of 10%.

7.3 Assessment of options against non-financial criteria

The impact statements that follow describe the contribution of each shortlisted option to the non-financial criteria and present an initial score for each option.

7.3.1 Criteria and weightings for non-financial appraisal of shortlisted options

Contribution to objectives / criterion	Criterion 1 Coverage	Criterion 2 Market Effectiveness	Criterion 3 Incentives to invest	Criterion 4 Protects the Public Interest	Criterion 5 Deliverability of Options	Criterion 6 Managing Risks	Summary Content
Option 2: Private sector build, finance, own and operate with obligations (gap funded)	5	4	5	4	5	5	Continuing with the current procurement process will deliver high speed broadband to 100% coverage and close the 'digital divide' between urban and rural areas in the shortest timeframe. One bidder remains in the current process. Public sector control is limited to the terms of the contract, however, should the contract be operated by the Department and enforced as intended, the contract is structured to provide protections for the State and incentives for the private sector to perform. Contract obligations and remedies support open access, effective competition at the retail level, the development of new products and services and non-discrimination. All obligations persist for the duration of the 25 year contract, after which they are likely to fall away. As the network will remain with the private operator, there should be incentive for the operator to invest and innovate to develop and grow the wholesale business throughout the 25 year contract period as well as invest and future proof the network, minimising the need for further intervention by the government. This is supported by strong contractual obligations and remedies. Private sector bears the majority of the delivery risk under the contract but utilises its specialist know-how to mitigate risk. This enables the state's financial exposure to be minimised however reputation and policy risk of contract failure still exists.
Option 2 (a): Private sector build, finance, own and operate with obligations (gap funded) with revenue risk shared between Public Sector and the Private Sector	3	4	4	4	3	4	Option 2(a) is similar to Option 2 with the exception that revenue and demand risk is shared between the public sector and private sector, resulting in the state taking increased risk. According to legal advice, changing the current contract to allow for shared demand risk may be viewed as a change to the contract requiring the project to be re-procured. In considering the requirement for re-procurement, it would be necessary to consult with the EU to ensure a decision not to re-procure would not impact state aid funding and ERDF funding. This consultation and any re-procurement (if required) would cause a delay to the roll-out of rural broadband and risk the delivery of the project in the short-term. The sharing of revenues would likely be attractive to bidders and funders however, it would mean that the private sector party will have less capital at its disposal to re-invest in the Network compared to Option 2. Under this option, the State would need to manage its share of revenue/take up risk. Detailed due diligence of the business plan and market risk would be required to assess the risk transfer being considered.

Contribution to objectives / criterion	Criterion 1 Coverage	Criterion 2 Market Effectiveness	Criterion 3 Incentives to invest	Criterion 4 Protects the Public Interest	Criterion 5 Deliverability of Options	Criterion 6 Managing Risks	Summary Content
Option 2 (b): Private sector build, finance, own and operate with obligations (gap funded) with a reduced scope of 95% with remaining area being funded separately, for example being serviced by Universal Service Designation (USD)	4	4	5	4	3	5	This is similar to Option 2 with the exception that it would result in reduced coverage. However, unlike option 2(c) discussed below according to legal advice, the likelihood of having to re-procure the entire project is reduced, which allows 95% of the Intervention Area to be deployed in the immediate term with the remainder being serviced through an alternative method i.e. Universal Service Designation. There will still be some delay to the current procurement process as a detailed analysis would need to be undertaken from both a technical and commercial perspective to identify the premises to be excluded from the current process. A separate process would need to be completed to service the remaining 5% and this is unlikely to be achieved in the short term. 5% represents a very small proportion of the overall market which may result in limited market appetite for any later procurement process putting at risk the delivery of the high speed broadband to the remaining premises.
Option 2(c): Private sector build, finance, own and operate with obligations (gap funded) with a reduced scope of 80% with remaining area being funded separately, for example being serviced by Universal Service Designation (USD)	3	4	5	4	4	5	This option is also similar to Option 2 with the exception that it would result in reduced coverage and lengthen the procurement process due to the need to consult with the EU and possibly re-procure. Under this option, 20% of premises would be removed from the current procurement process and the remaining 20% would be serviced through an alternative method i.e. Universal Service Designation. Such a change, according to legal advice may be viewed as a material change to the current contract resulting in the need to re-procure the project. In considering this, there would need to be a consultation with the EU regarding the impact, if any, on the availability of state aid or ERDF funding. Even if no re-procurement is required, there would still be a period of time required, according to the technical advisors, in order to identify which premises should be extracted from the current procurement process taking into account both technical and commercial considerations to ensure any premises extracted can be serviced through alternative means. A separate procurement process will need to be completed for the remaining 20%. Work would be required in assessing alternative options and planning and running a separate process. According to the technical advisors, a technical solution which is cheaper than addressing the premises through the gap funded approach has not been identified and as such the extraction of such premises and the servicing of these premises through alternative means is likely to be higher cost than under the current procurement process due to inefficiencies. This is unlikely to be achieved during the short term and will put the delivery of the remaining 20% at risk. Further, market appetite for the remaining 20% has not been tested and as such, there

Contribution to objectives / criterion	Criterion 1 Coverage	Criterion 2 Market efficiency	Criterion 3 Incentives to invest	Criterion 4 Protects the Public Interest	Criterion 5 Deliverability of Options	Criterion 6 Managing Risks	Summary Content
Option 3: Re-procure as a Concession Contract	3	5	3	5	2	4	<p>is no guarantee the market would be willing to participate in any procurement process.</p> <p>The concession option provides for 100% coverage, however changing the contract to a concession contract would, according to legal advice require a re-procurement of the project which will add to project timelines.</p> <p>Similar to Option 2, the concession contract would likely be designed to have market effectiveness obligations regarding competition and public interest protections. It would also likely have the additional benefit that Government ownership of the network following the end of the contract term means that Government is able to ensure that the market effectiveness obligations persist beyond the 25 year period.</p> <p>The State would bear the risk in relation to the condition of the network at reversion, technology obsolescence and long term demand risk (beyond the contract period). Further, as the network reverts to public ownership at the end of the contract period, there would likely be limited commercial incentive for the operator to invest in the network or to grow the business in the later years of the contract term.</p> <p>There is a risk to delivery of this option, mainly driven by the complexity of the structure and the possible re-procurement. Option 3 has not previously been used in Ireland in this industry and there is an additional layer of complexity associated with this as a result of the asset reversion. As such, there would be no certainty of market appetite or indeed, market confidence for a new procurement.</p>
Option 3 (a): Re-procure as a Concession Contract with revenue risk shared between Public Sector and the Private Sector	3	5	2	5	3	3	<p>Similar to Option 3, however changing the current contract to a concession contract as well as introducing the concept of revenue risk sharing will require, according to legal advice a re-procurement of the process which will add to project timelines.</p> <p>The State will be taking some take-up and demand risk under this option, which increases the state's risk in comparison to Option 3, but increases the attractiveness of the project to bidders and funders. This revenue sharing mechanism may lead to the private operator having less capital at its disposal to invest during the contract period. As the network ultimately reverts to public ownership at the end of the contract period, there may be limited commercial incentive for operator to invest in network or in growing the business in the later years of the contract term.</p>
Option 3 (b): Re-procure as a Concession Contract with a reduced scope (95%) with	3	5	3	5	1	4	<p>This option is similar to Option 3 with the exception that it would result in reduced coverage in the short term to 95% but with an alternative method being used to address the remaining 5%. Such a change,</p>

Contribution to objectives / criterion	Criterion 1: Coverage	Criterion 2: Market Effectiveness	Criterion 3: Incentives to Invest	Criterion 4: Protects the Public Interest	Criterion 5: Desirability of Options	Criterion 6: Managing Risks	Summary Content
remaining area being funded separately, for example being serviced by Universal Service Designation ('USD') obligation							<p>according to legal advice, will require the current contract to be converted to a concession contract and require a re-procurement of the process.</p> <p>A separate procurement process would need to be completed for the remaining 5%. Work would be required in assessing alternative options and planning and running a separate process. According to the technical advisors, a technical solution which is cheaper than addressing the premises through the gap funded approach has not been identified. This is unlikely to be achieved during the short term and will put the delivery of the remaining 5% at risk. Further, market appetite for the remaining 5% has not been tested and as such, there is no guarantee the market would be willing to participate in any procurement process.</p>
Option 3 (c): Re-procure as a Concession Contract with a reduced scope (80%) with remaining area being funded separately, for example being serviced by Universal Service Designation ('USD') obligation	3	5	3	5	1	4	<p>This option is similar to Option 3(b)</p>

Assessment of Key Risks

This section considers some of the key risks associated with the delivery of the State intervention and examines the allocation of risk between the public and private sector for each ownership option. This is based on the assumed structure for each option, on typical contracts for such ownership models and such contracts being operated and enforced as intended.

8.1 Risks

8.1.1 Financial risks

The following table summarises some of the key financial risks associated with the intervention and how they are allocated under each of the ownership options. This is based on typical contracts for such ownership models and such contracts being operated and enforced as intended.

Table 13: Financial risks

Allocation of key financial risks	Option 2 Gap funding	Option 2(a) Gap funding with revenue risk shared between Public Sector and the Private Sector	Option 2(b) Gap funding with a reduced scope (95%) with remaining area being funded separately, for example being serviced by USD obligation	Option 2(c) Gap funding with a reduced scope (80%) with remaining area being funded separately, for example being serviced by USD obligation	Option 3 Re-procure as a Concession Contract	Option 3(a) Re-procure as a Concession Contract with revenue risk shared between Public Sector and the Private Sector	Option 3(b) Re-procure as a Concession Contract with a reduced scope (95%) with remaining area being funded separately, for example being serviced by USD obligation	Option 3(c) Re-procure as a Concession Contract with a reduced scope (80%) with remaining area being funded separately, for example being serviced by USD obligation
Higher than projected build costs	Private sector (with a small proportion of risk share)	Private sector (with a small proportion of risk share)	Private sector (with a small proportion of risk share)	Private sector (with a small proportion of risk share)	Private sector (with a small proportion of risk share)	Private sector (with a small proportion of risk share)	Private sector (with a small proportion of risk share)	Private sector (with a small proportion of risk share)

Allocation of key financial risks	Option 2 Gap funding	Option 2(a) Gap funding with revenue risk shared between Public Sector and the Private Sector	Option 2(b) Gap funding with a reduced scope (95%) with remaining area being funded separately, for example being serviced by USD obligation	Option 2(c) Gap funding with a reduced scope (80%) with remaining area being funded separately, for example being serviced by USD obligation	Option 3 Re-procure as a Concession Contract	Option 3(a) Re-procure as a Concession Contract with revenue risk shared between Public Sector and the Private Sector	Option 3(b) Re-procure as a Concession Contract with a reduced scope (95%) with remaining area being funded separately, for example being serviced by USD obligation	Option 3(c) Re-procure as a Concession Contract with a reduced scope (80%) with remaining area being funded separately, for example being serviced by USD obligation
Cost/penalties of build delays	Private sector	Private sector	Private sector	Private sector	Private sector	Private sector	Private sector	Private sector
Higher than projected operating expenditure	Private sector	Private sector	Private sector	Private sector	Private sector	Private sector	Private sector	Private sector
Higher than projected infrastructure (rental) costs	Shared	Shared	Shared	Shared	Shared	Shared	Shared	Shared
Lower take up/revenues	Private sector	State	Private sector	Private sector	Private sector	State	Private sector	Private sector
Lower product pricing	Private sector	State	Private sector	Private sector	Private sector	State	Private sector	Private sector
Lower than predicted terminal value	Private sector	Private sector	Private sector	Private sector	State	State	State	State

Source: KPMG analysis

Table 13: Financial risks above presents a suggested allocation of key financial risks between the private sector and the State for each of the shortlisted options. It highlights there are only lower levels of risk borne by the State under the following options: Option 2, Option 2(b) and Option 2(c) with the State sharing the

infrastructure rental costs. In the full concession, Option 3 and Option 3(b), the State bears terminal value risk and shares higher than projected infrastructure rental costs with the private sector partner. Under Option 2(a) and Option 3(a), the State will be taking on the risk around take-up/revenues and product pricing.

8.1.2 Financial benefits

The following table summarises some of the key financial benefits associated with the intervention and how they are allocated under each of the ownership options. This is based on typical contracts for such ownership models and such contracts being operated and enforced as intended.

Table 14: Financial benefits

Allocation of key financial benefits	Option 2 Gap funding	Option 2(a) Gap funding with revenue risk shared between Public Sector and the Private Sector	Option 2(b) Gap funding with a reduced scope (95%) with remaining area being funded separately, for example being serviced by USD obligation	Option 2(c) Gap funding with a reduced scope (80%) with remaining area being funded separately, for example being serviced by USD obligation	Option 3 Re-procure as a Concession Contract	Option 3(a) Re-procure as a Concession Contract with revenue risk shared between Public Sector and the Private Sector	Option 3(b) Re-procure as a Concession Contract with a reduced scope (95%) with remaining area being funded separately, for example being serviced by USD obligation	Option 3(c) Re-procure as a Concession Contract with a reduced scope (80%) with remaining area being funded separately, for example being serviced by USD obligation
	—	—	—	—	—	—	—	—
	+	+	+	+	+	+	+	+
	+	+	+	+	+	+	+	+

Allocation of Key financial benefits	Option 2 Gap funding	Option 2(a) Gap funding with revenue risk shared between Public Sector and the Private Sector	Option 2(b) Gap funding with a reduced scope (95%) with remaining area being funded separately, for example being serviced by USD obligation	Option 2(c) Gap funding with a reduced scope (80%) with remaining area being funded separately, for example being serviced by USD obligation	Option 3 Re-procure as a Concession Contract	Option 3(a) Re-procure as a Concession Contract with revenue risk shared between Public Sector and the Private Sector	Option 3(b) Re-procure as a Concession Contract with a reduced scope (95%) with remaining area being funded separately, for example being serviced by USD obligation	Option 3(c) Re-procure as a Concession Contract with a reduced scope (80%) with remaining area being funded separately, for example being serviced by USD obligation

Source: KPMG analysis

Table 14: Financial benefits above presents the suggested allocation of key financial benefits between the private sector and the State for each of the shortlisted options. The State will at least obtain a share of the financial benefits under all options. It is notable that whilst the private sector partner bears all or the majority of the downside financial risks under a Gap Funded model, the contract is structured such that if operated as intended, the State will receive a share of the upside financial benefits.

8.1.3 Protections against poor performance

The following table summarises the main protections against poor performance that can be applied to each of the shortlisted options. This is based on typical contracts for such ownership models and such contracts being operated and enforced as intended.

Table 15: Protections against poor performance

Option 2 Gap funding	Option 2(a) Gap funding with revenue risk shared between Public Sector and the Private Sector	Option 2(b) Gap funding with a reduced scope (95%) with remaining area being funded separately, for example being serviced by USD obligation	Option 2(c) Gap funding with a reduced scope (80%) with remaining area being funded separately, for example being serviced by USD obligation	Option 3 Re-procure as a Concession Contract	Option 3(a) Re-procure as a Concession Contract with revenue risk shared between Public Sector and the Private Sector	Option 3(b) Re-procure as a Concession Contract with a reduced scope (95%) with remaining area being funded separately, for example being serviced by USD obligation	Option 3(c) Re-procure as a Concession Contract with a reduced scope (80%) with remaining area being funded separately, for example being serviced by USD obligation
Commercial Incentives	Commercial Incentives	Commercial Incentives	Commercial Incentives	Commercial Incentives	Commercial Incentives	Commercial Incentives	Commercial Incentives
Delay payments	Delay payments	Delay payments	Delay payments	Delay payments	Delay payments	Delay payments	Delay payments
Performance credits	Performance credits	Performance credits	Performance credits	Performance credits	Performance credits	Performance credits	Performance credits
Termination (step-in rights more difficult to achieve)	Termination (step-in rights more difficult to achieve)	Termination (step-in rights more difficult to achieve)	Termination (step-in rights more difficult to achieve)	Termination & step-in rights	Termination & step-in rights	Termination & step-in rights	Termination & step-in rights
State aid clawback	State aid clawback	State aid clawback	State aid clawback	State aid clawback	State aid clawback	State aid clawback	State aid clawback

Option 2 Gap funding	Option 2(a) Gap funding with revenue risk shared between Public Sector and the Private Sector	Option 2(b) Gap funding with reduced scope (95%) with remaining area being funded separately, for example being serviced by USD obligation	Option 2(c) Gap funding with reduced scope (80%) with remaining area being funded separately, for example being serviced by USD obligation	Option 3 Re-procure as a Concession Contract	Option 3(a) Re-procure as a Concession Contract with revenue risk shared between Public Sector and the Private Sector	Option 3(b) Re-procure as a Concession Contract with reduced scope (95%) with remaining area being funded separately, for example being serviced by USD obligation	Option 3(c) Re-procure as a Concession Contract with reduced scope (80%) with remaining area being funded separately, for example being serviced by USD obligation
Performance bond	Performance bond	Performance bond	Performance bond	Performance bond	Performance bond	Performance bond	Performance bond

Source: KPMG analysis

Table 15: Protections against poor performance above summarises the protections that could be included for each shortlisted option against poor performance in respect of network build and operation. Under both a gap funding model and concession model, there could be protections against poor performance incorporated into the 25 year contract. These protections include the potential to terminate the contract in event of continuing poor performance with either the subsidy (or an appropriate proportion thereof) having to be repaid or the State having a right to step-in and operate the network.

8.1.4 Protections against discrimination / market abuse

The following table summarises the main protections against discrimination/market abuse that could be incorporated for each shortlisted option. This is based on typical contracts for such ownership models and such contracts being operated and enforced as intended.

Table 16: Protections against discrimination / market abuse

Option 2 Gap funding	Option 2(a) Gap funding with revenue risk shared between Public Sector and the Private Sector	Option 2(b) Gap funding with a reduced scope (95%) with remaining area being funded separately, for example being serviced by USD obligation	Option 2(c) Gap funding with a reduced scope (80%) with remaining area being funded separately, for example being serviced by USD obligation	Option 3 Re-procure as a Concession Contract	Option 3(a) Re-procure as a Concession Contract with shared risk between Public Sector and the Private Sector	Option 3(b) Re-procure as a Concession Contract with a reduced scope (95%) with remaining area being funded separately, for example being serviced by USD obligation	Option 3(c) Re-procure as a Concession Contract with a reduced scope (80%) with remaining area being funded separately, for example being serviced by USD obligation
Separate legal entity	Separate legal entity	Separate legal entity	Separate legal entity	Separate legal entity	Separate legal entity	Separate legal entity	Separate legal entity
Management Incentives	Management Incentives	Management Incentives	Management Incentives	Management Incentives	Management Incentives	Management Incentives	Management Incentives
Accounting separation	Accounting separation	Accounting separation	Accounting separation	Accounting separation	Accounting separation	Accounting separation	Accounting separation
Open book data & accounting	Open book data & accounting	Open book data & accounting	Open book data & accounting	Open book data & accounting	Open book data & accounting	Open book data & accounting	Open book data & accounting
Equivalence of Inputs ("Eol") & Eol platform	Equivalence of Inputs ("Eol") & Eol platform	Equivalence of Inputs ("Eol") & Eol platform	Equivalence of Inputs ("Eol") & Eol platform	Equivalence of Inputs ("Eol") & Eol platform	Equivalence of Inputs ("Eol") & Eol platform	Equivalence of Inputs ("Eol") & Eol platform	Equivalence of Inputs ("Eol") & Eol platform
Contract obligations/KPIs & performance credits	Contract obligations/KPIs & performance credits	Contract obligations/KPIs & performance credits	Contract obligations/KPIs & performance credits	Contract obligations/KPIs & performance credits	Contract obligations/KPIs & performance credits	Contract obligations/KPIs & performance credits	Contract obligations/KPIs & performance credits

Option 2 Gap funding	Option 2(a) Gap funding with revenue risk shared between Public Sector and the Private Sector	Option 2(b) Gap funding with a reduced scope (95%) with remaining area being funded separately, for example being serviced by USD obligation	Option 2(c) Gap funding with a reduced scope (80%) with remaining area being funded separately, for example being serviced by USD obligation	Option 3 Re-procure as a Concession Contract	Option 3(a) Re-procure as a Concession Contract with revenue risk shared between Public Sector and the Private Sector	Option 3(b) Re-procure as a Concession Contract with a reduced scope (95%) with remaining area being funded separately, for example being serviced by USD obligation	Option 3(c) Re-procure as a Concession Contract with a reduced scope (80%) with remaining area being funded separately, for example being serviced by USD obligation
Termination (step-in rights in limited circumstances)	Termination (step-in rights in limited circumstances)	Termination (step-in rights in limited circumstances)	Termination (step-in rights in limited circumstances)	Termination & step-in rights	Termination & step-in rights	Termination & step-in rights	Termination & step-in rights

Source: KPMG analysis

Table 16: Protections against discrimination / market abuse above summarises the controls and safeguards that could be incorporated into each shortlisted option to protect against discrimination and market abuse.

[REDACTED]

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9 Preferred Option

9.1 Summary of ownership options

The table below summarises the main advantages and disadvantages associated with each of the ownership options. The table also summarises the level of risk borne by the State under each ownership option.

Table 18: Summary of ownership options

Advantages, Disadvantages and potential risks of each ownership option		
Ownership option	Advantages	Disadvantages
Option 2: Private sector build, finance, own, operate with obligations (Gap funding)	<ul style="list-style-type: none"> - Provided the Bidder progresses through the detailed evaluation process on the programme as it stands, no change to currently proposed target timeline; - The State will likely benefit from private sector specialist expertise in the design, deployment and operation of high speed broadband network; - Should the contract be enforced by the Department and operate as intended, risks associated with network build, ongoing operations and maintenance, commercial risk (including take-up and revenue) and ownership of assets are borne by private sector; - Should the contract be enforced by the Department and operate as intended, subsidy payments dependent on performance ensures that the private sector provider delivers a quality service; - Should the contract be enforced by the Department and operate as intended, the private sector will be commercially incentivised to maximise the efficiency of 	<ul style="list-style-type: none"> - Lack of competitive tension as a result of only one Bidder remaining in the process however this can be managed by exerting competitive pressure as described in 9.3.1; - The State will be required to provide capital funding with no ownership in return, however, should the contract be enforced by the Department and operate as intended, there will be contractual protections to provide similar benefits (i.e. deployment clawback, whole of life clawback and the Bidder will price in a Terminal Value benefit of the assets the Bidder will retain at the end of the Contract which will reduce the subsidy compared to a concession model); - The State will be committed to making payments to the private sector over 25 years; - The State will not have direct control over the project and the rollout, however should the contract be enforced by the Department and operate as intended, the current contract provides for obligations and ongoing monitoring, reporting and governance; - The private sector may benefit from accelerated rollout or capital cost savings; however should the contract be enforced by the Department and
		<p>Risks borne by the State</p> <ul style="list-style-type: none"> - Contractual solution to deliver policy objectives over 25 years - Private sector bears the majority of the delivery risk under the contract - State carries reputation and policy risk of contract failure, but financial risk of failure borne by private sector (hence strong financial standing is required) - Relies on strong commercial and contractual incentives, provided they are operated and enforced as intended to deliver high quality, compliant services over term - State will have to bear some commercial risks associated with increases and decreases in the Intervention Area, qualifying changes in law, similar projects, compensation events, contract termination, Minister Default and certain Permitted Assumptions. However, it is envisaged that the Government's liability will be capped. - Subject to continuing obligations relating to network access and the potential designation of Significant Market Power,

Advantages, Disadvantages and potential risks of each ownership option.

Ownership option	Advantages	Disadvantages	Risks borne by the State
	<p>operations with savings through additional returns being shared with government over the life of the contract;</p> <ul style="list-style-type: none"> - Has the potential to achieve synergies with the existing market, given the 100% ownership by the private sector and the nature of the current market as set out in Section 3.1.1 of this report; - Should the contract be enforced by the Department and operate as intended, future capital requirements will be borne by the private sector, and - Should the contract be enforced by the Department and operate as intended, it will likely future proof the network by ensuring the winning bidder is incentivised to maximise future revenues and encourage competition in the market at a retail level 	<p>operate as intended, the contract is designed to return a proportion of cost savings during deployment through a claw back mechanism;</p> <p>The private sector will have sole rights to commercial exploitation of the asset post contract but it is required to assume a Terminal Value in its financial model and should the contract be enforced by the Department and operate as intended, there will be clawback for additional benefits above the assumed Terminal Value.</p> <p>Should there not be sufficient commercial return at the end of the contract term, there is a risk that the private sector partner would no longer provide services to these areas at that point. However, there will be assets in the business with a residual value as the majority of the assets will have a useful life beyond 25 years; and</p> <p>The public sector will bear reputational and policy risk should the project company fail to deliver the objectives of the intervention.</p>	<p>the operator will not be obliged to provide services or operate in a non-discriminatory manner after the expiry of the contract. The State therefore lacks control over delivery of policy objectives at the end of the contract.</p>
<p>Option 2(a): Private sector build, finance, own, operate with obligations (Gap funding) with revenue risk shared between Public Sector and the Private Sector</p>	<ul style="list-style-type: none"> - The State will receive a share of the benefits from any increase in take-up and demand; and - The private sector partner would be taking less commercial risk and as such it could reduce the required IRR and thus, the government subsidy required. 	<ul style="list-style-type: none"> - A share of the commercial risk associated with take-up and revenue will be transferred to the public sector and as such the public sector will share in any downside; - Shared revenue risk would represent a change to the project and further detailed analysis would be required before selecting this option. Detailed due diligence of the business plan and market risk would be required to assess the risk transfer being considered if there is a decision to take some of this risk back; and - According to legal advice, this option has a high risk of a procurement challenge due to the 	<p>In addition to those included in Option 2, the State shares in the revenue take up and demand risk.</p>

Advantages, Disadvantages and potential risks of each ownership option			
Ownership option	Advantages	Disadvantages	Risks borne by the State
Option 2(b): Private sector build, finance, own and operate with obligations (gap funded) with a reduced scope (95%)	<ul style="list-style-type: none"> - Reduced Subsidy upfront. 	<ul style="list-style-type: none"> - According to the technical advisors, the alternative methods for 5% are likely to cost more than addressing the 5% in the gap funded approach; - There may be delayed delivery for 5% of premises; - There may be a delay in the achievement of all the economic benefits - According to legal advice, EU commission may need to be consulted with respect to the reduced scope; and - According to legal advice, EU may need to be consulted with respect to ERDF funding and state aid funding to ensure that the project still qualifies. 	As with Option 2.
		<p>change in scope, unless the process is re-procured. If the project is re-procured this would result in a delay.</p>	
Option 2(c): Private sector build, finance, own and operate with obligations (gap funded) with a reduced scope (80%)	<ul style="list-style-type: none"> - Reduced Subsidy upfront. 	<ul style="list-style-type: none"> - There may be delayed delivery for 20% of premises; - There may be a delay in the achievement of all the economic benefits; - According to the technical advisors, the alternative methods for 20% are likely to cost more than addressing the 20% in the gap funded approach. - According to legal advice, potential for procurement challenge due to the change in scope, unless the process is re-procured; 	As with Option 2.

Advantages, Disadvantages and potential risks of each ownership option

Ownership option	Advantages	Disadvantages	Risks borne by the State
		<ul style="list-style-type: none"> - According to legal advice, EU commission may need to be consulted with respect to the reduced scope; - According to the legal advice, EU may need to be consulted with respect to ERDF funding and state aid funding to ensure that the project still qualifies; and - This may not be as attractive to current bidders. 	
Option 3: Re-procure as a Concession Contract	<ul style="list-style-type: none"> - According to the legal advice, the PIM and the ISDS expressly state that the procurement can be terminated and the project procured in a different way separately. Consequently, a different ownership model approach could be taken in that case when re-tendering - According to the legal advice and technical advice, it would be possible to utilise the work completed to date (e.g. technical specifications, contract, tender documents); - Depending on the design and operation of the contract, the service provider should be able to roll-out to 100% of premises although it will not be within the target timeframe; - Depending on the design and operation of the contract, risks should be passed to the party best able to manage them over the contract term; - This option may achieve some synergies with the existing market; - The public sector will have ownership of the assets after contract concession. 	<ul style="list-style-type: none"> - There may be loss in market confidence if the current procurement process is cancelled and there may not be potential bidders for the re-procurement of the contract; - Re-procurement would adversely impact project timelines; - The State again may not have direct control over the project and the rollout, however depending on the design, operation and enforcement of the contract, the contract could provide for obligations and ongoing monitoring, reporting and governance; - The State may not be able to pass all of the risks associated with this intervention to the private sector given that it will own the asset after the contract period; - The public sector will assume all risk associated with ownership of assets after contract cessation; - It is likely that the private sector would likely price in its required returns based on the project over the life of the contract rather than the asset life plus price in the cost of future hand back requirements which may lead to a higher subsidy cost; 	<p>Contractual solution to deliver policy objectives over 25 years. Contract terms similar to Option 2 but with additional provisions relating to reversion of the network to the State at the end of the contract term.</p> <p>Private sector bears all of the delivery risk under the contract.</p> <p>State carries reputation and policy risk of contract failure, but financial risk of failure largely borne by private sector (strong financial standing required)</p> <p>Risk borne by State in contract is primarily limited to funding the subsidy requirement of the full concession contract. State will also bear some risk in relation to the condition of the network at reversion.</p> <p>Relies on strong commercial and contractual incentives to deliver high quality, compliant services over term and to ensure that the network is fully maintained and that planned investment and future proofing is undertaken all the way to the end of the contract term.</p> <p>The State will assume risk associated with the long term ownership of the</p>

Advantages, Disadvantages and potential risks of each ownership option

Ownership option	Advantages	Disadvantages	Risks borne by the State
	<ul style="list-style-type: none"> - allowing it to capture all future benefits associated with the network; - This option, while not typical in this sector, has been used in some other jurisdictions; and - Depending on the design and operation of the contract, a large portion of risk may be passed to the private sector over the contract duration. 	<ul style="list-style-type: none"> - Potential synergies such as leveraging of existing infrastructure may not be utilised; - The private sector may benefit from accelerated rollout or capital cost savings. However, depending on the design, operation and enforcement of the contract, clawback may be included in the same way as the current approach; - It may be difficult to ring fence and identify the exact fibre assets which are under public ownership as they may be integrated into existing network infrastructure; - The public sector will bear the long term risk of ensuring that the network continues to be able to rely on any third party infrastructure to which it is connected; - Depending on the design, operation and enforcement of the contract, there may be limited commercial incentive for the private sector to continue to build the business, innovate and diversify towards the end of the contract term; - At contract term, the operator would need to ensure that appropriate transfer/access rights to IP are transferred with the fibre assets included in the Contract and any interconnect and inter-operator agreement would need to be transferable to the next entity; and - The State would bear technology and network obsolescence risk. 	<p>Infrastructure. Contract therefore needs to safeguard investment in network in later years of contract.</p> <p>State bears technology obsolescence risk and long term demand risk (beyond the contract period).</p>

Advantages, Disadvantages and potential risks of each ownership option

Ownership option	Advantages	Disadvantages	Risks borne by the State
Option 3(a): Re-procure as a Concession Contract with revenue risk shared between Public Sector and the Private Sector	<ul style="list-style-type: none"> - The State will receive a share of the benefits from any increase in take-up and demand; and - The private sector partner would be taking less commercial risk and as such this could reduce the required IRR and thus, the government subsidy required. 	<ul style="list-style-type: none"> - The State will be taking a share of the market/demand risk in relation to the revenues and will share in the downside of any reduction in revenues; and - Shared revenue risk would represent a change to the project and further detailed analysis would be required before selecting this option. Detailed due diligence of the business plan and market risk would be required to assess the risk transfer being considered if there is a decision to take some of this risk back. 	<ul style="list-style-type: none"> - In addition to those included in Option 3, a share of the revenue take up and demand risk is borne by the State.
Option 3(b): Re-procure as a Concession Contract with a reduced scope (95%)	<ul style="list-style-type: none"> - May reduce Subsidy upfront. 	<ul style="list-style-type: none"> - There may be delayed delivery for 5% of premises; - There may be a delay in the achievement of all the economic benefits; and - According to the technical advisors, the alternative methods for 5% are likely to cost more than addressing the 5% in the gap funded approach. 	<ul style="list-style-type: none"> - As with Option 3.
Option 3(c): Re-procure as a Concession Contract with a reduced scope (80%)	<ul style="list-style-type: none"> - May reduce Subsidy upfront. 	<ul style="list-style-type: none"> - There may be delayed delivery for 20% of premises; - There may be a delay in the achievement of all the economic benefits; and - According to the technical advisors, the alternative methods for 20% are likely to cost more than addressing the 20% in the gap funded approach. 	<ul style="list-style-type: none"> - As with Option 3.

9.2 Preferred ownership option

On the basis of the financial and qualitative appraisal of shortlisted options presented in Sections 6 and 7 of this report, and the advantages and disadvantages discussed above, we conclude that the preferred option is Option 2 'Continue with the current procurement process of a gap funded model followed by Option 2(b).

This option:

- Offers an opportunity to achieve a mutually acceptable agreement with the remaining Bidder;
- Minimises procurement risk and the consequential State Aid and ERDF risks; and
- Is structured to provide early check-points on the potential to achieve a mutually acceptable agreement.

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to address any areas of the RDS which did not meet DCCAE's

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National Broadband Plan Project Re-appraisal



10.2 High Speed Broadband Determination

The technical advisors undertook an analysis of the High Speed Broadband Determination and noted that while the Intervention Strategy does not specify the type of technology that should be used for the National Broadband Plan, it has been accepted, following detailed analysis by DCCAE that Fibre to the Premises is the likely solution for the majority of premises in the Intervention Area. The remaining Bidders in the competition put forward a similar view during dialogue. Whilst the aspiration of the Intervention Strategy is ubiquitous availability of the same Minimum Standard NGA Service to all premises in the Intervention Area, the Strategy recognises that the economics of achieving this aspiration may result in an unacceptably high, unaffordable subsidy requirement. Therefore in order to address this affordability risk, the option of providing Alternative Bitstream Wholesale Products was explored with Bidders by the technical advisors and DCCAE. This allows bidders to propose alternative solutions that doesn't achieve all the specification requirements under Minimum Bitstream Wholesale Products, e.g. alternative technology fixed wireless access solution and a satellite solution. These options are currently being dialogued with the Bidder by the technical advisors and DCCAE and will be pursued if they meet the objectives of the project and offer value for money for Government.

Following an analysis on High Speed Broadband Determination by the technical advisors, it was concluded that at present the Bidder will continue to be required to provide a High Speed Broadband product to 100% of premises in the Intervention Area. There has been no obvious Alternative Bitstream solution identified to date, however the Contract will allow flexibility for alternatives to facilitate new solutions and technologies over the contract duration, as well as allowing for Alternative Bitstream Wholesale Product for difficult to reach premises that materialise during deployment. This optional access solution will meet minimum specification set for the Minimum Bitstream Wholesale Product, however it may have a different specification to the product that NBPco is using in the majority of the Intervention Area. The specification shall be future proofed and proportionally track the roadmaps for the main Minimum Bitstream Wholesale Product. The use of the Alternative Bitstream Wholesale Product is currently proposed to be capped at 2% of existing Premises and 2% of new Premises.

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A Multi –Criteria Assessment

Objective 1: Develop Intervention strategy for areas commercial operators will not deliver HSB		
Intervention Option	Commentary based on Assumed Structures	Scoring
Option 1: Do Nothing	The 'do nothing' option does not envisage any government intervention. It also does not foresee a situation whereby high speed broadband is delivered in the immediate term for rural Ireland. The 'do nothing' option does not meet this objective.	0
Option 2: Gap funded model	The gap funded model option is structured to ensure the delivery of high speed broadband to rural Ireland as soon as possible taking into account the complexities of the process. The current contract, if operated and enforced as intended sets out a number of terms whereby the commercial operator is incentivised to ensure the prompt deployment of the infrastructure and connection of the end-users including: requirement to ensure that deployment is commenced in all deployment areas within the initial 12 months, subsidy payments in arrears of achieving deployment area complete and network deployment complete and termination for failure to achieve long stop dates for Network Deployment Complete for 30%, 60% and 100% of Premises in the Intervention Area.	5
Option 2(a): Gap funded model with shared demand risk	Under Option 2(a), the State shares the demand risk with the Private Sector. According to the legal advisor, there are limitations on changes that may be made to a procurement, which is subject to the rules and principles derived from the Treaty on the Functioning of the European Union. These changes are around changes which are considered to be "substantial". Changes around 'demand risk' may be considered "substantial" and thus, require a re-procurement of the project. In determining this, consultation with the EC Commission may be required in order to ensure that a positive State aid decision is still possible and to ensure that the project still qualifies for State Aid funding. This consultation process will add to the project timelines. Following this consultation, there is a risk that re-procurement of the project would be required. There is also a risk that another Bidder or interested party may challenge the change regarding shared demand risk. Any challenge to the procurement process would delay project timelines. If re-procurement is required, it may be possible to run the procurement on a fast tracked process such as Open procedure or restricted procedure, considering it is likely that the same documentation could be utilised and the contract is substantially complete.	3

<p>Option 2(b): Gap funded model with reduced scope to 95% with remaining area to be funded separately, for example being serviced by USO obligation</p>	<p>Under Option 2(b), the scope of the premises will be reduced to 95%, however alternative methods of delivery will be considered for the remaining 5% of premises i.e. through a potential USO. An assessment of which premises should be removed from the current Intervention Area would need to take place to ensure that the remaining 5% of premises could be completed by an alternative method i.e. USO.</p> <p>According to legal advice, considering the %s proposed in the PIM of 97% around High Speed Broadband Determination, the risk around re-commencement of the procurement process is reduced in contrast to Option 2(c) below</p> <p>The remaining 5% of premises would need to be re-procured via a separate process, as described above.</p>	
<p>Option 2(c): Gap funded model with reduced scope to 80% with remaining area to be funded separately, for example being serviced by USO obligation</p>	<p>Under Option 2(c), the scope of the premises will be reduced to 80%, however alternative methods of delivery will be considered for the remaining 20% of premises i.e. through a potential USO. An assessment of which premises should be removed from the current Intervention Area would need to take place to ensure that the remaining 20% of premises could be completed by an alternative method i.e. USO.</p> <p>Similar to Option 2(a) above, according to legal advice, the change in scope may be viewed as a 'substantial' change to the contract and as such, there is potentially a procurement risk. In addition to this, state aid guidelines require projects to be compliant with EU procurement law and should the commission view this as being non-compliant, then the project could potentially not qualify for State Aid clearance or ERDF funding. In order to establish the Commissions view, engagement with the Commission will be necessary, this is likely to increase project timelines. There is a risk following this consultation that re-procurement may be required causing further delays to project timelines. The procurement risk could be mitigated, if the reduction in scope was done in the manner provided for by the High Speed Broadband Determination. According to the legal advisors, the %s proposed in the PIM in this regard were around the 97% range, albeit that the footnotes said that the actual % could be higher.</p> <p>Similar to above, if re-procurement is required, it may be possible to run the procurement on a fast tracked process such as open procedure or restricted procedure, considering it is likely the same documentation could be utilised and the contract is substantially complete.</p> <p>With respect to the remaining 20% of premises, these will not be delivered in the immediate term. Significant work would be required in assessing the alternative options and planning and running a separate procurement process for the award of a preferred bidder for their successful deployment. Should an USO be selected, according to the legal advisor, legislation will need to be drafted and passed. It is unlikely that any Bidder would be willing to engage in a procurement process until the USO legislation is successfully passed.</p>	3
<p>Option 3: Concession contract</p>	<p>The 'concession contract' option provides for government intervention in areas that commercial operators will not deliver high speed broadband similar to Option 2.</p> <p>According to the legal advisor, this option requires the project to be re-procured causing a delay in the roll-out of High Speed Broadband relative to Option 2.</p>	3

Option 3(a): Concession contract with shared revenue risk	Similar to Option 3.	3
Option 3(b): Concession Contract with reduced scope to 95% with remaining area to being funded separately, for example being serviced by USD obligation	Similar to Option 3, according to the legal advisor, this option would require a re-procurement of the project. In addition to this, similar to Option 2(b), the remaining 5% of premises, would need to be addressed through alternative means. However, in comparison to Option 3 (c) below, there will be a higher % of premises receiving high speed broadband in a shorter timeframe.	4
Option 3(c): Concession Contract with reduced scope to 80% with remaining area to being funded separately, for example being serviced by USD obligation	Similar to Option 3, according to the legal advisor, this option would require a re-procurement of the project. In addition to this, similar to Option 2(c), the remaining 20% of premises, would need to be addressed through alternative means. Significant work would be required in assessing the alternative options and planning and running a separate procurement process for the award of a preferred bidder for their successful deployment. Should an USO be selected, according to the legal advisor, legislation will need to be drafted and passed. It is unlikely that any Bidder would be willing to engage in a procurement process until the USO legislation is successfully passed. The timelines could be improved by running both procurement processes in parallel, however considering the significant effort, resources and time required from both the government and private sector perspective this may not be achievable. Further, the potential interested parties in the bidder market is limited. The private sector party's interest in competing in the 20% procurement process may be dependent on the outcome of the 80% procurement process and as such, running both processes in parallel may not attract sufficient market interest.	3
Option 4: Public Concession	Option 4 would require the current procurement process to be cancelled and the public sector would be tasked to design, build, operate and own the broadband infrastructure. Under this option, a government entity would need to be set-up or a semi-state would need to be identified in order to undertake this task which would take time. Some elements of the current corporate governance structure proposed under the contract could be used in order to minimise the time required to determine the appropriate government approvals processes. Once the government entity is set up or semi state is identified, a number of procurement processes would need to be undertaken in order to appoint the contractors for network design and build and other contracting capabilities. According to legal advice, whilst the extent to which the current procurement documentation could be used for this is limited, there would be opportunities to fast-track these procurement processes through potentially using existing government procurement templates for design and build contracts and running the procurement processes in parallel. This would require additional resources, commitment and effort from the government entity or semi state. Relative to some of the other options, there would be significant delay in project timelines.	1
Option 5: Negotiate direct with all Infrastructure Access Provider	According to legal advice, Option 5 is only a viable option if the current procurement process collapses and as such, the current procurement process would need to run its course. Upon the occurrence of this event, a standstill period of circa 3 months would be required before the commencement of negotiations with Infrastructure Access providers. During this	2

	period, the government would need to establish that the market is unable to deploy high speed broadband to the Intervention Area for the price that the government is willing to pay. Once negotiations commence, parameters could be set to ensure efficient and timely negotiation around key commercial, legal and technical issues. However, relative to Options 2 and 3, this would adversely impact project timelines.	
Option 6: Subdivision into 5 or more lots	Similar to Option 3, the subdivision of the contract into 5 or more lots would require the current procurement process to be cancelled and the project re-procured. Prior to the project being re-procured, according to the technical advisors some additional work would need to be undertaken by the technical and commercial teams to ensure the intervention areas are divided into lots that are commercially and technically viable and would attract market interest. Due to the increased number of Bidders, additional time may need to be added to the procurement process including tender evaluation and contract award phase.	3
Option 7: Joint Venture	Similar to Options 3 and 6, the 'Joint Venture' option would require the current procurement process to be cancelled and the project re-procured as a Joint Venture. This ownership model differs substantially from the gap funded ownership model. According to the legal advisors, technical advisors and the department, key commercial, legal and technical issues would need to be negotiated with bidders and the development of new procurement documents. Due to the competing objectives of the government and the private sector, a number of these issues may require some time to reach agreement. The significant amount of work required to prepare the procurement documents and re-run the process would have a severe impact on the timeline for the roll-out of the high speed broadband plan.	1
Option 8: Universal Service Designation	Option 8 would not deliver high speed broadband to any premise in the Intervention Area in the immediate term. Significant work would be required in assessing the alternative options and planning and running a separate procurement process for the award of a preferred bidder for their successful deployment. According to legal advice, there is no EU directive on USD broadband. As such, USO legislation will need to be drafted without guidance and passed. It is unlikely that any Bidder would be willing to engage in a procurement process until the USO legislation is successfully passed. This option not only involves running a new procurement process but also would require the successfully passing of legislation, as such this would result in the delayed delivery of high speed broadband.	0

Objective 2. Provide high quality and reliable broadband services			Scoring
Intervention Option	Summary Comment		
Option 1: Do Nothing	The 'do nothing' option will not ensure the delivery of high speed broadband to every home or business now or into the future.	0	
Option 2: Gap funded model	The service provider should be able to rollout to 100% of premises. The contract, if operated and enforced as intended also includes obligations which require the service provider to connect future end users and requirement to connect 100% of premises.	5	
Option 2(a): Gap funded model without demand risk	Similar to Option 2.	5	
Option 2(b): Gap funded model with reduced scope to 95% with remaining area to being funded separately, for example being serviced by USD obligation	Similar to Option 2.	5	
Option 2(c): Gap funded model with reduced scope to 80% with remaining area to being funded separately, for example being serviced by USD obligation	Similar to Option 2.	5	
Option 3(a): Concession contract with shared revenue risk	Similar to Option 2.	5	
Option 3(b): Concession Contract with reduced scope to 95% with remaining area to being funded separately, for example being serviced by USD obligation	Similar to Option 2.	5	

Option 3(c): Concession Contract with reduced scope to 80% with remaining area to be funded separately, for example being serviced by USD obligation	Similar to Option 2.	5
Option 4: Public Concession	Similar to Option 2.	5
Option 5: Negotiate direct with an Infrastructure Access Provider	Under Option 5, the government's negotiating leverage would be reduced and the current contract obligations may not be achievable. According to legal advice, the potential for the Government to provide state aid under this option would need to be considered in detail.	3
Option 6: Subdivision into 5 or more lots	Option 6 would aim to achieve 100% coverage, however subdivision of the intervention Area is likely to expose uncommercial areas of the Intervention Area. The commercial business case for all lots may not stack up resulting in no or limited market interest for specific lots.	3
Option 7: Joint Venture	Similar to Option 2.	5
Option 8: Universal Designation	Similar to Option 2.	5

Objective 3. Value for money		
Intervention Option	Summary Comment	Scoring
Option 1: Do Nothing	This is not applicable under this option.	0
Option 2: Gap funded model	Private sector ownership following the end of the contract term provides an incentive for the operator to invest and innovate to develop and grow the wholesale business throughout the 25 year contract period. It also incentivises the operator to invest in, and future proof, the wholesale network throughout the 25 year contract period. This is supported by strong contractual obligations and remedies, should the contract be operated and enforced as intended. The commercial incentives on the operator should minimise the need for further intervention by the public sector in future years.	4

	The procurement process is designed so that it is economically advantageous and is aimed at maximising the use of existing infrastructure.	
Option 2(a): Gap funded model without demand risk	Similar to Option 2.	4
Option 2(b): Gap funded model with reduced scope to 95% with remaining area to being funded separately, for example being serviced by USD obligation	Similar to Option 2, the procurement process would be designed so that it is economically advantageous and is aimed at maximising the use of existing infrastructure. Private sector ownership following the end of the contract provides the commercial incentive for the private sector to invest over the term of contract and beyond the term of the contract. According to the technical advisors, a technical solution which is cheaper than addressing the premises through the gap funded approach has not been identified and as such the extraction of such premises and their completion through an alternative means is likely to be higher than under the current procurement process due to inefficiencies	3
Option 2(c): Gap funded model with reduced scope to 80% with remaining area to being funded separately, for example being serviced by USD obligation	Similar to Option 2, the procurement process would be designed so that it is economically advantageous and is aimed at maximising the use of existing infrastructure. Private sector ownership following the end of the contract provides the commercial incentive for the private sector to invest over the term of contract and beyond the term of the contract. According to the technical advisors, a technical solution which is cheaper than addressing the premises through the gap funded approach has not been identified and as such the extraction of such premises and completing through an alternative means is likely to be higher than under the current procurement process due to inefficiencies. Whilst for the purposes of the financial analysis, it has been assumed that the cost will at least be equal to the cost under the current procurement process, it is likely to be higher.	2
Option 3: Concession contract	As the network reverts to public ownership at the end of the contract period, there is likely to be limited commercial incentive for operator to invest in network or in growing the business in the later years of the contract term. Strong contractual provisions are required (including condition survey, retention fund and handback conditions) to ensure planned investment and future proofing is delivered in later years of the contract and to ensure the network reverts in satisfactory condition. The procurement process would be designed so that it is economically advantageous and would be aimed at maximising the use of existing infrastructure.	3
Option 3(a): Concession contract with shared revenue risk	Similar to Option 3	3
Option 3(b): Concession Contract with reduced scope to 95% with remaining area to being funded separately, for	Similar to Option 3, the procurement process would be designed so that it is economically advantageous and is aimed at maximising the use of existing infrastructure. Public sector ownership means that there will be limited commercial incentive for the private sector operator to invest especially in later years and as such the investment decision will instead be driven by the contractual terms.	2

example being serviced by USD obligation	However, according to the technical advisors, the cost of completing the remaining premises by alternative means is likely to be higher than under the current procurement process.	
Option 3(c): Concession Contract with reduced scope to 80% with remaining area to be funded separately, for example being serviced by USD obligation	Similar to Option 3, the procurement process would be designed so that it is economically advantageous and is aimed at maximising the use of existing infrastructure. Public sector ownership means that there will be limited commercial incentive for the private sector operator to invest especially in later years and as such the investment decision will instead be driven by the contractual terms. However, according to the technical advisors, the cost of completing the remaining premises by alternative means is likely to be significantly higher than the current process.	2
Option 4: Public Concession	Under this option, there would be no requirement for an economically advantageous procurement strategy, as the public sector would build, finance, own and operate. It is likely in order to achieve this the public sector would re-use the existing infrastructure. The semi-state operator rather than the private sector partner would have the commercial incentive to invest and innovate to develop and grow the wholesale business.	1
Option 5: Negotiate direct with all Infrastructure Access Provider	This option would maximise the re-use of existing infrastructure through negotiating directly with an infrastructure access provider and depending on the outcome of these negotiations, it may incentivise additional commercial investment Under this option, the government's negotiation leverage would be reduced and the current contract obligations may not be achievable.	3
Option 6: Subdivision into 5 or more lots	Similar to Option 2 with respect to economically advantageous procurement strategy and re-use of existing infrastructure. The subdivision of lots is likely to be inefficient and result in duplication in work and effort. Evidence from ISDS shows that it is more cost effective to deploy broadband to the entire intervention area than to split the area into specific lots.	2
Option 7: Joint Venture	Similar to Option 2, however the State, as an equity shareholder in the JV and joint owner of the network, may need to provide additional funding for any future/increased investment in the network.	2
Option 8: Universal Service Designation	Similar to Option 2.	4

Objective 4. Underpinning Government policy on economic recovery and jobs		
Intervention Option	Summary Comment	Scoring
Option 1: Do Nothing	The 'do nothing' option does not support the government policy on economic recovery and jobs.	0
Option 2: Gap funded model	This option will aid the social objectives of the government through the delivering of high speed broadband to 100% of the intervention area. This option will help the government achieve its social objectives by offering new, cost effective routes for the provision of public services such as eHealth and eGovernment and bringing high speed broadband to strategic locations such as hospitals, schools, business parks.	5
Option 2(a): Gap funded model without demand risk	Similar to Option 2.	5
Option 2(b): Gap funded model with reduced scope to 95% with remaining area to being funded separately, for example being serviced by USD obligation	Similar to Option 2.	5
Option 2(c): Gap funded model with reduced scope to 80% with remaining area to being funded separately, for example being serviced by USD obligation	Similar to Option 2.	5
Option 3: Concession contract	Similar to Option 2.	5
Option 3(a): Concession contract with shared revenue risk	Similar to Option 2.	5
Option 3(b): Concession Contract with reduced scope to 95% with remaining area to being funded separately, for example being serviced by USD obligation	Similar to Option 2.	5

Option 3(c): Concession Contract with reduced scope to 80% with remaining area to being funded separately, for example being serviced by USD obligation	Similar to Option 2.	5
Option 4: Public Concession	Similar to Option 2.	5
Option 5: Negotiate direct with an Infrastructure Access Provider	Under this option, the government's negotiating leverage would be reduced and the current contract obligations, and therefore policy objectives, may not be achievable.	4
Option 6: Subdivision into 5 or more lots	The subdivision of the intervention area into 5 or more lots would aim to achieve 100% coverage, however as each lot would be potentially quite small and independent, there may not be market appetite for all lots. Should this occur, the Government would not achieve its policy to the same extent as it would under Option 2	3
Option 7: Joint Venture	Similar to Option 2.	5
Option 8: Universal Service Designation	Similar to Option 2.	5

B Criteria and weightings for non-financial appraisal of options

Criterion 1. Coverage		Impact Statement	Scoring
Intervention Option	Option 2: Private sector build, finance, own and operate with obligations (gap funded)	<ul style="list-style-type: none"> - Has the ability to deliver 100% coverage and close the "digital divide" between urban and rural areas. - Should the contract be operated by the Department and enforced as intended, the contract includes financial incentives to ensure timely deployment of high quality, reliable infrastructure to all of the intervention area such as milestone payment process with milestone payments dependent on when premises are passed/connected and with delay payments where deployment is significantly delayed. - Concern that private sector may not be incentivised to deliver to the hardest to reach, most uneconomical areas of the intervention due to the high cost of deployment and the comparatively low levels of additional income. This risk is mitigated through use of milestone payments, delay payments, termination rights and a performance bond. - Continuing the current procurement process has the potential deliver high speed broadband to 100% of premises in the shortest timeframe. 	5
	Option 2(a): Private sector build, finance, own and operate with obligations (gap funded) with shared revenue/take up risk	<ul style="list-style-type: none"> - Has the ability to deliver 100% coverage and close the "digital divide" between urban and rural areas. - The contract would include financial incentives to ensure timely deployment of high quality, reliable infrastructure to all of the intervention area such as milestone payment process with milestone payments dependent on when premises are passed/connected and with delay payments where deployment is significantly delayed. - Private sector would be incentivised to deliver to hardest to reach places, even most uneconomical areas as the state is taking the risk with respect to take-up and revenue. - The State would share the take up and demand risk and according to legal advice, this would be considered a material change to the current contract and as such the contract would need to be re-procured. 	3
	Option 2 (b): Private sector build, finance, own and operate with obligations (gap funded) with a reduced scope of 95% with remaining area to being funded separately, for example being serviced by USD obligation	<ul style="list-style-type: none"> - Has the ability to deliver 100% coverage (95% through this process and 5% through alternative process) and close the "digital divide" between urban and rural areas. - The contract would include financial incentives to ensure timely deployment of high quality, reliable infrastructure to all of the intervention area such as milestone payment process with milestone payments dependent on when premises are passed/connected and with delay payments where deployment is significantly delayed. - Concern that private sector may not be incentivised to deliver to the hardest to reach, most uneconomical areas of the intervention due to the high cost of deployment and the comparatively low levels of additional income. This risk would be mitigated through use of milestone payments, delay payments, termination rights and a performance bond. - Considering the %s proposed in the PIM of 97% around High Speed Broadband Determination, the risk around re-commencement of the procurement process is reduced in contrast to Option 2(c) below, according to legal advice. 	4

Intervention Option	Impact Statement	Scoring
Option 1: Coverage	<ul style="list-style-type: none"> - With respect to the remaining 5% of premises, these would not be delivered in the immediate term. Significant work would be required, according to the Department and their advisors in assessing the alternative options and planning and running a separate procurement process for the award of a preferred bidder for their successful deployment. According to legal advice, USO legislation will need to be drafted and passed. It is unlikely that any Bidder would be willing to engage in a procurement process until the USO legislation is successfully passed. 	
<p>Option 2(c): Private sector build, finance, own and operate with obligations (gap funded) with a reduced scope of 80% with remaining area to being funded separately, for example being serviced by USD obligation</p>	<ul style="list-style-type: none"> - Has the potential to deliver 100% coverage (80% through this process and 20% through alternative process) and close the "digital divide" between urban and rural areas. - The contract would include financial incentives to ensure timely deployment of high quality, reliable infrastructure to all of the intervention area such as milestone payment process with milestone payments dependent on when premises are passed/connected and with delay payments where deployment is significantly delayed. - Concern that private sector may not be incentivised to deliver to the hardest to reach, most uneconomical areas of the intervention due to the high cost of deployment and the comparatively low levels of additional income. This risk would be mitigated through use of milestone payments, delay payments, termination rights and a performance bond. - According to legal advice, a reduction of the scope to 80% would be viewed as a substantial change to the current contract and as such, there is potentially a procurement risk. In addition to this, state aid guidelines require projects to be compliant with EU procurement law and should the commission view this as being non-compliant, then the project could potentially not qualify for State Aid clearance or ERDF funding. In order to establish the Commissions view, engagement with the Commission would be necessary, this would likely increase project timelines. There would be a risk following this consultation that re-procurement would be required causing further delays to project timelines. The procurement risk could be mitigated, if the reduction in scope was done in the manner provided for by the High Speed Broadband Determination. The %s proposed in the PIM in this regard were around the 97% range, albeit that the footnotes said that the actual % could be higher. - Similar to above, if re-procurement is required, it may be possible to run the procurement on a fast tracked process such as open procedure or restricted procedure, considering the same documentation may be able to be utilised and the contract is substantially complete. - The remaining 20% of premises would need to be re-procured via a separate process similar to the 5% of premises described in Option 2(b) above. 	3
Option 3: Re-procure as a Concession Contract	<ul style="list-style-type: none"> - As per Option 2 above, however this option, according to legal advice, would require the project to be re-procured therefore causing a delay in the roll-out of High Speed Broadband. 	3

Criterion 1: Coverage		Scoring
Intervention Option	Impact Statement	
Option 3 (a): Re-procure as a Concession Contract with shared revenue/take up risk	- As per Option 2(a) above.	3
Option 3(b): Re-procure as Concession Contract with reduced scope to 95% with remaining area to being funded separately, for example being serviced by USD obligation	- As per Option 2 (b)...	3
Option 3 (c): Re-procure as Concession Contract with reduced scope to 80% with remaining area to being funded separately, for example being serviced by USD obligation	- As per Option 2 (c).	3

Criterion 2: Market Effectiveness		Scoring
Intervention Option	Impact Statement	
Option 2: Private sector build, finance, own and operate with obligations (gap funded)	<ul style="list-style-type: none"> - Should the contract be operated by the Department and enforced as intended, contract obligations and remedies support open access, effective competition at the retail level and the development of new products and services. - Should the contract be operated by the Department and enforced as intended, the contract contains obligations and remedies in relation to non-discrimination. Obligations include equivalence of inputs, price controls, open book data and open book accounting, accounting separation and management separation and separation of marketing and branding. - Should the contract be operated by the Department and enforced as intended, the contract also requires the establishment of a separate legal entity to deliver the intervention, which provides additional assurance and transparency in relation to non-discrimination. - The obligations persist for the duration of the 25 year contract, after which they are likely to fall away. 	4

Option 2 (a): Private sector build, finance, own and operate with obligations (gap funded) with shared revenue/take up risk	- As with Option 2.	4
Option 2 (b): Private sector build, finance, own and operate with obligations (gap funded) with a reduced scope of 95% with remaining area to being funded separately, for example being serviced by USD obligation	- As with Option 2.	4
Option 2(c): Private sector build, finance, own and operate with obligations (gap funded) with a reduced scope of 80% with remaining area to being funded separately, for example being serviced by USD obligation	- As with Option 2	4
Option 3: Re-procure as a Concession Contract	- As with option 2, but would have the additional benefit that Government ownership of the network following the end of the contract term which means that the Government would be able to ensure that the obligations persist beyond the 25 year period.	5
Option 3(a): Re-procure as Concession contract with shared revenue risk	- As with Option 3.	5
Option 3(b): Re-procure as Concession Contract with reduced scope to 95% with remaining area to being funded separately, for example being serviced by USD obligation	- As with Option 3.	5

Option 3(c): Re-procure as Concession Contract with reduced scope to 80% with remaining area to being funded separately, for example being serviced by USD obligation	- As with Option 3.	5
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Criterion 3. Incentives to invest			Score
Intervention Option	Impact Statement		
Option 2: Private sector build, finance, own and operate with obligations (gap funded)	<ul style="list-style-type: none"> Private sector ownership following the end of the contract term should provide an incentive for the operator to invest and innovate to develop and grow the wholesale business throughout the 25 year contract period. It should also incentivise the operator to invest in, and future proof, the wholesale network throughout the 25 year contract period. This is supported by strong contractual obligations and remedies, should the contract be operated by the Department and enforced as intended. The commercial incentives on the operator should minimise the need for further intervention by the public sector in future years. 		5
Option 2 (a): Private sector build, finance, own and operate with obligations (gap funded) with shared revenue/take up risk	<ul style="list-style-type: none"> As with option 2, however as the public sector would take a share of the revenues, the private sector may have less capital to reinvest in the Network relative to Option 2. 		4
Option 2 (b): Private sector build, finance, own and operate with obligations (gap funded) with a reduced scope of 95% with remaining area to being funded separately, for example being serviced by USD obligation	<ul style="list-style-type: none"> As with option 2 there should be an incentive for the operator to invest and innovate to develop and grow the wholesale business throughout the 25 year contract period. 		5
Option 2(c): Private sector build, finance, own and operate with obligations (gap funded) with a reduced scope of 80% with remaining area to being funded separately, for example being serviced by USD obligation	<ul style="list-style-type: none"> As with option 2 there should be an incentive for the operator to invest and innovate to develop and grow the wholesale business throughout the 25 year contract period. 		5
Option 3: Re-procure as a Concession Contract	<ul style="list-style-type: none"> As the network reverts to public ownership at the end of the contract period, there would be limited commercial incentive for operator to invest in network or in growing the business in the later years of the contract term. 		3

Criterion 3: Incentives to invest		
Intervention Option	Impact Statement	Scoring
	<ul style="list-style-type: none"> Strong contractual provisions would be required (including condition survey, retention fund and handback conditions) to ensure planned investment and future proofing is delivered in later years of the contract and to ensure the network reverts in satisfactory condition. 	
Option 3 (a): Re-procure as a Concession Contract with shared revenue/take up risk	<ul style="list-style-type: none"> As with Option 3, however as the public sector would take a share of the revenues, the private sector may have less capital to reinvest in the Network relative to Option 2. 	2
Option 3(b): Re-procure as Concession Contract with reduced scope to 95% with remaining area to being funded separately, for example being serviced by USD obligation	<ul style="list-style-type: none"> As with Option 3 	3
Option 3(c): Re-procure as Concession Contract with reduced scope to 80% with remaining area to being funded separately, for example being serviced by USD obligation	<ul style="list-style-type: none"> As with Option 3 	3

Criterion 4: Protects the public interest		
Intervention Option	Impact Statement	Scoring
Option 2: Private sector build, finance, own and operate with obligations (gap funded)	<ul style="list-style-type: none"> Public sector control is limited to the terms of the contract. Contract is structured to provide protections for the State and incentives for the private sector to perform, provided it is operated and enforced by the Department as intended. Contract includes clawback, profit share and terminal value mechanisms to provide the government with a share of any capital savings, increases in net revenues or increases in long term value of the assets. Contract also contains safeguards in respect of poor performance and adherence to contract obligations including performance credits, termination rights and step-in-rights, provided it is operated and enforced as intended. 	4

Criterion 4, Protects the public interest		
Intervention Option	Impact Statement	Scoring
	<ul style="list-style-type: none"> The operator will not be obliged to provide services or operate in a non-discriminatory manner after the expiry of the contract. 	
Option 2(a): Private sector build, finance, own and operate with obligations (gap funded) with shared revenue/take up risk	<ul style="list-style-type: none"> As with Option 2, public sector control would be limited to the terms of the contract. Contract would be structured to provide protections for the State and incentives for the private sector to perform. 	4
Option 2 (b): Private sector build, finance, own and operate with obligations (gap funded) with a reduced scope of 95% with remaining area to being funded separately, for example being serviced by USD obligation	<ul style="list-style-type: none"> As with Option 2, public sector control would be limited to the terms of the contract. Contract would be structured to provide protections for the State and incentives for the private sector to perform. 	4
Option 2(c): Private sector build, finance, own and operate with obligations (gap funded) with a reduced scope of 80% with remaining area to being funded separately, for example being serviced by USD obligation	<ul style="list-style-type: none"> As with Option 2, public sector control would be limited to the terms of the contract. Contract would be structured to provide protections for the State and incentives for the private sector to perform. 	4
Option 3: Re-procure as a Concession Contract	<ul style="list-style-type: none"> As Option 2 during the contract period. At the end of the contract period the State would receive control and ownership of the network and would therefore be able to ensure the continued provision of services. Does not rely on regulation or market forces after the 25 year term. State therefore would control over the continued delivery of its policy objectives after the end of the contract term, to the extent that the network continues to be the right solution for delivering these (taking into account potential advances in technology over 25 years) 	5

Criterion 4. Protects the public interest		
Intervention Option	Impact Statement	Scoring
Option 3 (a): Re-procure as a Concession Contract with shared revenue/take up risk	- As Option 3.	5
Option 3(b): Re-procure as Concession Contract with reduced scope to 95% w/ with remaining area to being funded separately, for example being serviced by USD obligation	- As Option 3.	5
Option 3(c): Re-procure as Concession Contract with reduced scope to 80% with remaining area to being funded separately, for example being serviced by USD obligation	- As Option 3.	5

Criterion 5. Deliverability of options		
Intervention Option	Impact Statement	Scoring
Option 2: Private sector build, own and operate with obligations (gap funded)	- One bidder remains in the current process. - The contract is well developed with only a number of issues to be resolved and a plan in place to do so. - The contract governance is clearly set out for the public sector to manage.	5
Option 2(a): Private sector build, finance, own and operate with obligations (gap funded) with shared revenue/take up risk	- As Option 2, shared revenue/take up risk would likely to be attractive to bidders and funders but this would probably require a re-procurement and risk the delivery of the project at least in the short term.	3
Option 2 (b): Private sector build, finance, own and operate	- As Option 2, however a separate process would need to be completed for the remaining 5% and this would be unlikely to be achieved in the short term. 5% represents a very small proportion of the overall market which may result in limited	3

Criterion 5. Deliverability of options			Scoring
Intervention Option	Impact Statement		
with obligations (gap funded) with a reduced scope of 95% with remaining area to being funded separately, for example being serviced by USD obligation	market appetite for any procurement process putting at risk the delivery of the high speed broadband to the remaining premises.		
Option 2(c): Private sector build, finance, own and operate with obligations (gap funded) with a reduced scope of 80% with remaining area to being funded separately, for example being serviced by USD obligation	<ul style="list-style-type: none">- As Option 2, however a separate process would need to be completed for the remaining 20%. This would unlikely to be achieved during the short term and would put the delivery of the remaining 20% at risk. Further, market appetite for the remaining 20% has not been tested and as such, there is no guarantee the market would be willing to participate in any later procurement process.	4	
Option 3: Re-procure as a Concession Contract	<ul style="list-style-type: none">- Option 3 has not previously been used in Ireland in this industry.- More complex structure than Option 2 as a result of the reversion of assets at the end of the contract.- Procurement process would need to recommence.- Governance arrangements similar to Option 2 could be utilised.- Potential loss of market confidence in NBP procurement(s).- No certainty of market appetite for a new procurement.	2	
Option 3 (a): Re-procure as a Concession Contract with shared revenue/take up risk	<ul style="list-style-type: none">- As Option 3, however shared take up and revenue risk is likely to be more attractive to bidders and funders.	3	
Option 3(b): Re-procure as Concession Contract with reduced scope to 95% with remaining area to being funded separately, for example being serviced by USD obligation	<ul style="list-style-type: none">- As per Option 3, however a separate process would need to be completed for the remaining 5% and this would unlikely to be achieved in the short term. 5% represents a very small proportion of the overall market which may result in limited market appetite for any procurement process putting at risk the delivery of the high speed broadband to the remaining premises.	1	
Option 3(c): Re-procure as Concession Contract with	<ul style="list-style-type: none">- As per Option 3, however a separate process would need to be completed for the remaining 20%. This would unlikely to be achieved during the short term and will put the delivery of the remaining 20% at risk. Further, market appetite for the	2	

Criterion 5: Deliverability of options		Scoring
Intervention Option	Impact Statement	
reduced scope to 80% with remaining area to being funded separately, for example being serviced by USD obligation	remaining 20% has not been tested and as such, there is no guarantee the market would be willing to participate in any procurement process.	

Criterion 6: Managing Risks		Scoring
Intervention Option	Impact Statement	
Option 2: Private sector build, finance, own and operate with obligations (gap funded)	<ul style="list-style-type: none"> - Private sector bears the majority of the delivery risk under the contract, if operated and enforced by Department as intended. - Utilises specialist know-how within private sector, thereby mitigating risk. - State's exposure to risk is minimised if the contract is operated and enforced by Department as intended, with the private sector bearing risks it should be well placed to manage. - State carries reputation and policy risk of contract failure, but financial risk of failure largely borne by private sector (strong financial standing required) 	5
Option 2(a): Private sector build, finance, own and operate with obligations (gap funded) with shared revenue/take up risk	<ul style="list-style-type: none"> - Similar to Option 2, however the State would share the risks associated with demand and revenue. Detailed due-diligence of the business plan and market risk would be required to assess the risk being considered. 	4
Option 2 (b): Private sector build, finance, own and operate with obligations (gap funded) with a reduced scope of 95% with remaining area to being funded separately, for example being serviced by USD obligation	<ul style="list-style-type: none"> - Similar to Option 2. 	5

Criterion 6. Managing Risks			Scoring
Intervention Option	Impact Statement		
Option 2(c): Private sector build, finance, own and operate with obligations (gap funded) with a reduced scope of 80% with remaining area to being funded separately, for example being serviced by USD obligation	<ul style="list-style-type: none"> - Similar to Option 2. 		5
Option 3: Re-procure as a Concession Contract	<ul style="list-style-type: none"> - Similar to Option 2 during the contract period. - State would also bear risk in relation to the condition of the network at reversion. Contract therefore would need to safeguard investment in the network in later years of contract. - State would bear technology obsolescence risk and long term demand risk (beyond the contract period). 		4
Option 3 (a): Re-procure as a Concession Contract with shared revenue/take up risk	<ul style="list-style-type: none"> - Similar to Option 3, however the State would share the risks associated with demand end revenue. Detailed due diligence of the business plan and market risk would be required to assess the risk being considered. 		3
Option 3(b): Re-procure as Concession Contract with reduced scope to 95% with remaining area to being funded separately, for example being serviced by USD obligation	<ul style="list-style-type: none"> - As Option 3. 		4
Option 3(c): Re-procure as Concession Contract with reduced scope to 80% with remaining area to being funded separately, for example being serviced by USD obligation	<ul style="list-style-type: none"> - As Option 3. 		4

[REDACTED]

C.3 Commercial revenue assumptions

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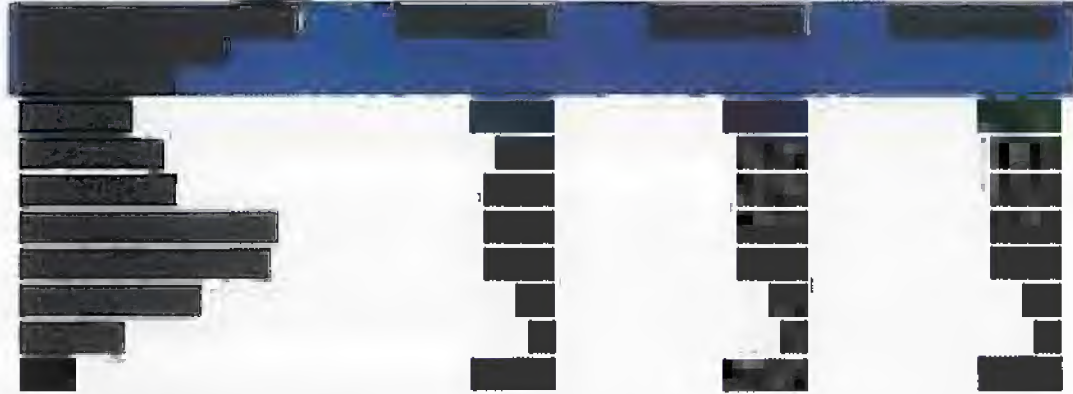


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A photograph of a film strip. The strip is white with a blue frame at the top. There are black sprocket holes along the top edge. The film itself is divided into a grid of black rectangular frames, arranged in two rows of six. The frames are empty, showing only the black background of the film.

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C.4 Capital expenditure assumptions

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DATE	TIME	LOCATION	WIND DIRECTION	WIND SPEED	WAVE PERIOD	WAVE HEIGHT	WAVE LENGTH	WAVE PERIOD	WAVE HEIGHT	WAVE LENGTH
12/1/79	0000	10N 105E	090	10	10	10	10	10	10	10
12/1/79	0100	10N 105E	090	10	10	10	10	10	10	10
12/1/79	0200	10N 105E	090	10	10	10	10	10	10	10
12/1/79	0300	10N 105E	090	10	10	10	10	10	10	10
12/1/79	0400	10N 105E	090	10	10	10	10	10	10	10
12/1/79	0500	10N 105E	090	10	10	10	10	10	10	10
12/1/79	0600	10N 105E	090	10	10	10	10	10	10	10
12/1/79	0700	10N 105E	090	10	10	10	10	10	10	10
12/1/79	0800	10N 105E	090	10	10	10	10	10	10	10
12/1/79	0900	10N 105E	090	10	10	10	10	10	10	10
12/1/79	1000	10N 105E	090	10	10	10	10	10	10	10
12/1/79	1100	10N 105E	090	10	10	10	10	10	10	10
12/1/79	1200	10N 105E	090	10	10	10	10	10	10	10
12/1/79	1300	10N 105E	090	10	10	10	10	10	10	10
12/1/79	1400	10N 105E	090	10	10	10	10	10	10	10
12/1/79	1500	10N 105E	090	10	10	10	10	10	10	10
12/1/79	1600	10N 105E	090	10	10	10	10	10	10	10
12/1/79	1700	10N 105E	090	10	10	10	10	10	10	10
12/1/79	1800	10N 105E	090	10	10	10	10	10	10	10
12/1/79	1900	10N 105E	090	10	10	10	10	10	10	10
12/1/79	2000	10N 105E	090	10	10	10	10	10	10	10
12/1/79	2100	10N 105E	090	10	10	10	10	10	10	10
12/1/79	2200	10N 105E	090	10	10	10	10	10	10	10
12/1/79	2300	10N 105E	090	10	10	10	10	10	10	10

[illegible]

C.5 Operating expenditure assumptions

National Broadband Plan Project Re-appraisal

[illegible]

[illegible]

[REDACTED]

[REDACTED]

[REDACTED]		[REDACTED]		[REDACTED]	
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

C.6 Funding assumptions

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

1 [REDACTED]

1 [REDACTED]

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[REDACTED]

[REDACTED]

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1 [REDACTED]

1 [REDACTED]

[REDACTED]

[REDACTED]

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[REDACTED]

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[illegible]

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[REDACTED]



[Redacted]

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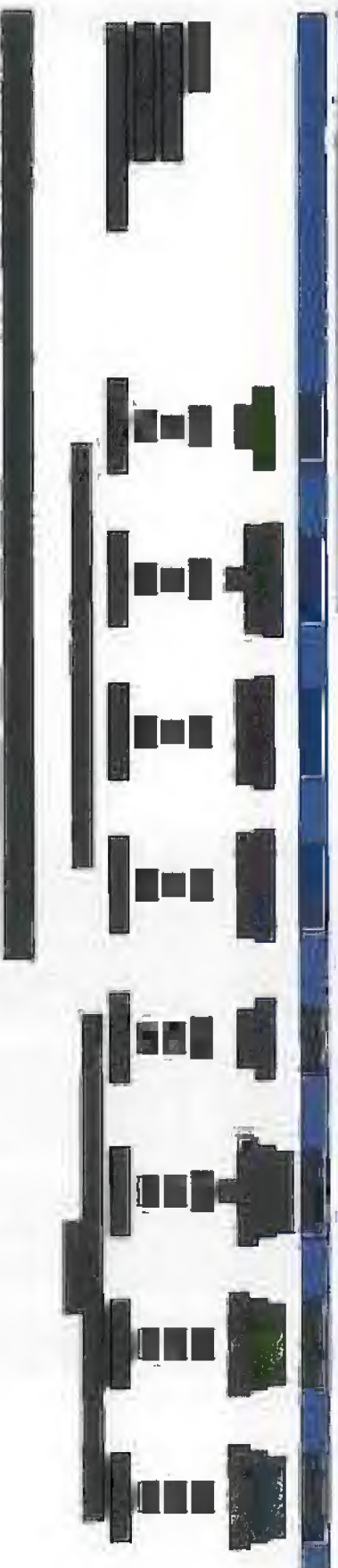
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[illegible]

National Broadband Plan Project Re-appraisal

[REDACTED]

[REDACTED]

D DCCAE review of the impact of the Project Reappraisal on the Broadband Strategy for Ireland (2015) – DCCAE review

- The following table sets out the elements of the strategy set out in 2015 and whether or not, in the view of the Department, the strategy is impacted as a result of the current approach to delivering the National Broadband Plan. This table relates to the strategic areas set out in the PwC Broadband Strategy for Ireland (2015) report and sets out whether, in DCCAE's view, the strategy is impacted as part of the project re-appraisal.

Strategic Item	Description	Impact on Strategy (Yes/No)
Intervention Area	The area in which the National Broadband Plan will be delivered providing next generation broadband connectivity for circa 545,000 delivery points in rural Ireland.	No
Service Definition	Specifications for minimum download, upload, latency, jitter, packet loss, service availability, affordability and other characteristics.	No
Additional services	Bidders will be requested to provide information on the higher quality of services to be provided to business.	No
Future Proofing	In the procurement process, bidders will be required to stipulate, as part of their bids, as to how they propose to ensure future-proofing. As part of the governance framework, NBP-Co will be required to improve service KPIs, in the light of market developments and technical evolution.	No
Extent of Availability	The Strategy aspires to deliver 100% coverage, however this may be revised if it is too expensive.	No
Extent of Intervention	The intervention should deliver both backhaul and access infrastructure.	No
Focus of the intervention	The focus of the intervention will be to create an open access wholesale network.	No
Connecting premises – time frames	All orders for fast broadband should be delivered within 12 weeks of placing the order.	No
Connecting premises – connection charges	NBP-Co are to provide connections to RSPs for a reasonable charge. Homes should not be counted as "covered" if they require significant additional cost to connect the network.	No

Strategic Item	Description	Impact on Strategy (Yes/No)
New Premises	New premises should also have access to fast broadband services, however the costs of connecting some new premises may be excessive.	No
Infrastructure sharing	Due to the high costs of deploying passive infrastructure, sharing the use of infrastructure could lower costs. However a binding obligation to share infrastructure may be difficult to implement.	No
Deployment criteria	Required deployment is to be completed by the end of 2020. Require rollout to at least 60% of delivery points by the end of 2018, subject to the contract for building the network being awarded in 2016.	Yes, timelines have shifted. Require rollout to at least 60% of delivery points by end of year 3 of the contract. Subject to the contract for building the network being awarded in 2018, this would be 2020.
Ownership Model	The recommended ownership model was a Gap Funding model, chosen on the basis that it provides the most affordable option whilst achieving all of the objectives of the intervention.	No
Minimum Required Wholesale Products - Required Access Services	<p>Access Network – Passive</p> <ul style="list-style-type: none"> — Duct Access — Pole Access — Dark Fibre — Radio tower and masts access <p>Access Network – Active</p> <ul style="list-style-type: none"> — Bitstream — Virtual unbundled services 	No
Minimum Required Wholesale Products - Required Backhaul Services	<p>Backhaul – Passive</p> <ul style="list-style-type: none"> — Duct Access — Pole Access — Dark Fibre — Co-location — Radio tower and mast access <p>Backhaul – Active</p>	No

Strategic Item	Description	Impact on Strategy (Yes/No)
	— Interconnect — Transmission capacity	
Permitted additional services	A set of additional wholesale products to be offered by bidders.	No
Basis for wholesale prices	Where possible, prices are benchmarked to prices outside of the Intervention Area. Price benchmarks are also adjusted to account for differences in service.	No
Non-discrimination measures	A series of non-discrimination measures, including Accounting Separation, Equivalence of Inputs and management systems and incentive schemes be included in the Strategy.	No
Small operator framework provision	NBP-Co is required to demonstrate that it engages with a range of RSPs, particularly small RSPs and that it is minimising barriers to entry to RSPs.	No
Procurement Strategy		
Procurement Strategy - Design of lots	A single tender process will be ran with multiple lots (three). There will be the possibility to bid for the entire Intervention Area, for which a requirement to also submit bids for the individual lots should be considered.	No. However, there is current consideration ongoing surrounding a possible change in Intervention Area changing to a two lot division with the option to bid for the whole intervention area.
Procurement Strategy - Contract time frame	20 years	No
Procurement Strategy - End of contract arrangements	NBP-Co's contract should consider how best to protect end users from adverse impacts that might arise from the ending of its contractual obligation.	No
Funding Model	Capital subsidy up front and during operations.	No

Strategic Item	Description	Impact on Strategy (Yes/No)
Governance - Scope of contract governance	Build phase governance based on implementation milestones with clawback mechanism.	No
Governance - Alignment with regulation	Focus alignment on operating phase. The contract can provide additional incentives/controls.	No
Governance - Structure/roles	DCENR ultimately responsible for contract governance. Leverage skills and capacity of other parties.	No
Demand Side Measures		
Demand Side Measures - National Digital Strategy	Bidders be given visibility of the development of the next phase in order to facilitate /coordinate with the Government on any resulting initiatives.	No
Demand Side Measures - Discounts for connections	NBP-Co waives one-off connection costs during the initial network deployment on the condition that RSPs pass this on to consumers.	No
Demand Side Measures - Procurement Process	Invite bidders to propose innovative and effective demand stimulation schemes during the procurement process.	No
Demand Side Measures - Co-ordination with public sector initiatives	Bidders to be given full visibility of public sector initiatives to allow bidders to develop ways to coordinate and work with government to encourage take-up.	No
Demand Side Measures - Demand Registration	Public Portal to be developed to and set up at the earliest opportunity.	No

